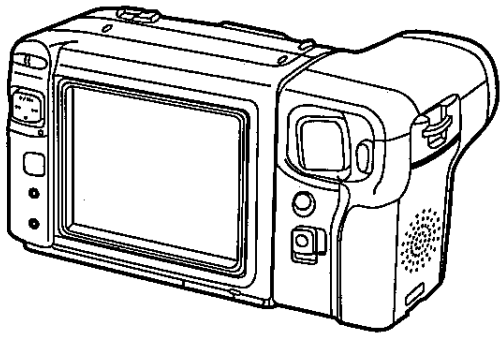
SHARP SERVICE MANUAL
SERVICE-ANLEITUNG
维修手册

S06S3VLDC1EHS



LIQUID CRYSTAL DIGITAL VIDEO CAMERA
DIGITALE VIDEO-KAMERA MIT FLÖSSIGKRISTALL-ANZEIGE
数值式液晶屏录像摄影机

Mini DV SHARP VIEWCAM

MODELS
MODELLE
型号

VL-DC1E/H/S

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

Im Interesse der Benutzersicherheit (erforderliche Sicherheitsregeln in einigen Ländern) muß das Gerät in seinen Originalzustand gebracht werden. Außerdem dürfen für die spezifizierten Bauteile nur identische Teile verwendet werden.

为了用户安全起见(根据一些国家的安全规程的需要)，应将液晶投影机保持于最初的状态，而且只能使用与指定物相同的部件。

SHARP CORPORATION

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1. SPECIFICATIONS

Signal System:	PAL standard
Recording System:	2 rotary heads, helical scanning system
Cassette:	Digital VCR Mini DV video cassette
Recording/Playback Time:	60 minutes (DVM60)
Tape Speed:	18.831 mm/second
Pickup Device:	¼" (6.4 mm, effective size: 4.5 mm) CCD image sensor (with approx. 470,000 pixels including optical black)
Lens:	12× power zoom lens (F1.8, f=4.2–50.4 mm), full-range auto focus
Lens Filter Diameter:	37 mm
Monitor:	4" (10.1 cm)—full-colour LCD screen (TFT active matrix)
Microphone:	Electret stereo microphone
Colour Temperature Compensation:	Auto white balance with white balance lock
Minimum Illumination:	6 lux* (with gain-up, and digital zoom off)
Video Output Level:	1.0 Vp-p 75-ohm unbalanced
Audio Output Level:	−8 dBs, impedance less than 2.2 kohms
Speaker Output:	300 mW
External Microphone Input:	3.5 mm diameter mini-plug, −66 dBs, output impedance 6.8 kohms, DC 4 V, for plug-in-power microphone use
Power Requirement:	DC 3.6 V
Power Consumption:	8.5 W (during camera recording in full auto mode with zoom motor off, backlight in normal mode)
Operating Temperature:	0°C to +40°C
Operating Humidity:	30% to 80%
Storage Temperature:	−20°C to +60°C
Dimensions (approx.):	181 mm (W) × 99 mm (H)× 88 mm (D)
Weight (approx.):	690 g (without battery pack, lithium battery, video cassette)

AC Adaptor/Battery Charger

Power Requirement:	AC 110-240 V, 50/60 Hz
DC Output:	4.5 V
Power Consumption:	25 W
Dimensions (approx.):	120 mm (W) × 51 mm × (H)101.5 mm (D)
VL-DC1E:	
Weight (approx.):	For Asia/Middle East (UADP-0233TAZZ): 394g For Hong Kong (UADP-0219TAZZ): 460g For Australia/New Zealand (UADP-0216TAZZ): 420g For Russia (UADP-0235TAZZ): 394g
VL-DC1H:	
Weight (approx.):	(UADP-0215TAZZ): 460g
VL-DC1S:	
Weight (approx.):	(UADP-0214TAZZ): 380g

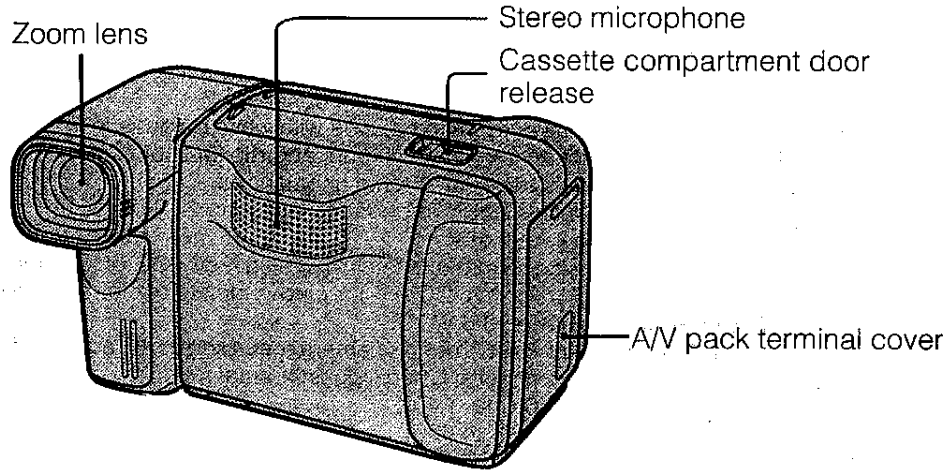
Specifications are subject to change without notice.

*Minimum illumination: Since there is no widely accepted testing procedure for determining minimum illumination capability, lux ratings are comparable only between models from the same manufacturer.

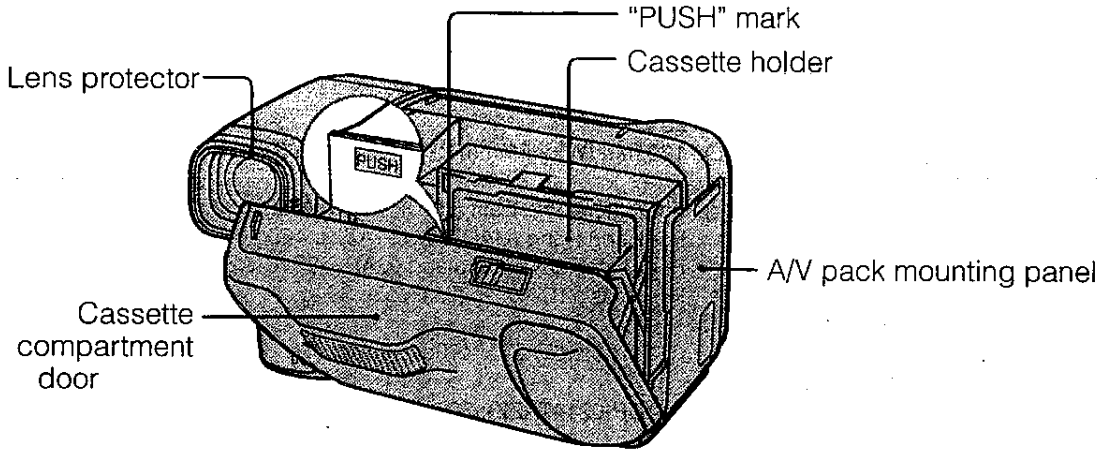
2. PART NAMES

For details on the use of each control, refer to the page number indicated in the brackets.

Front view

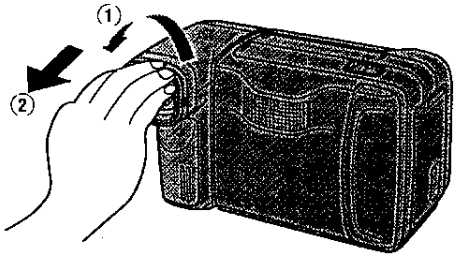


When the cassette compartment door is opened

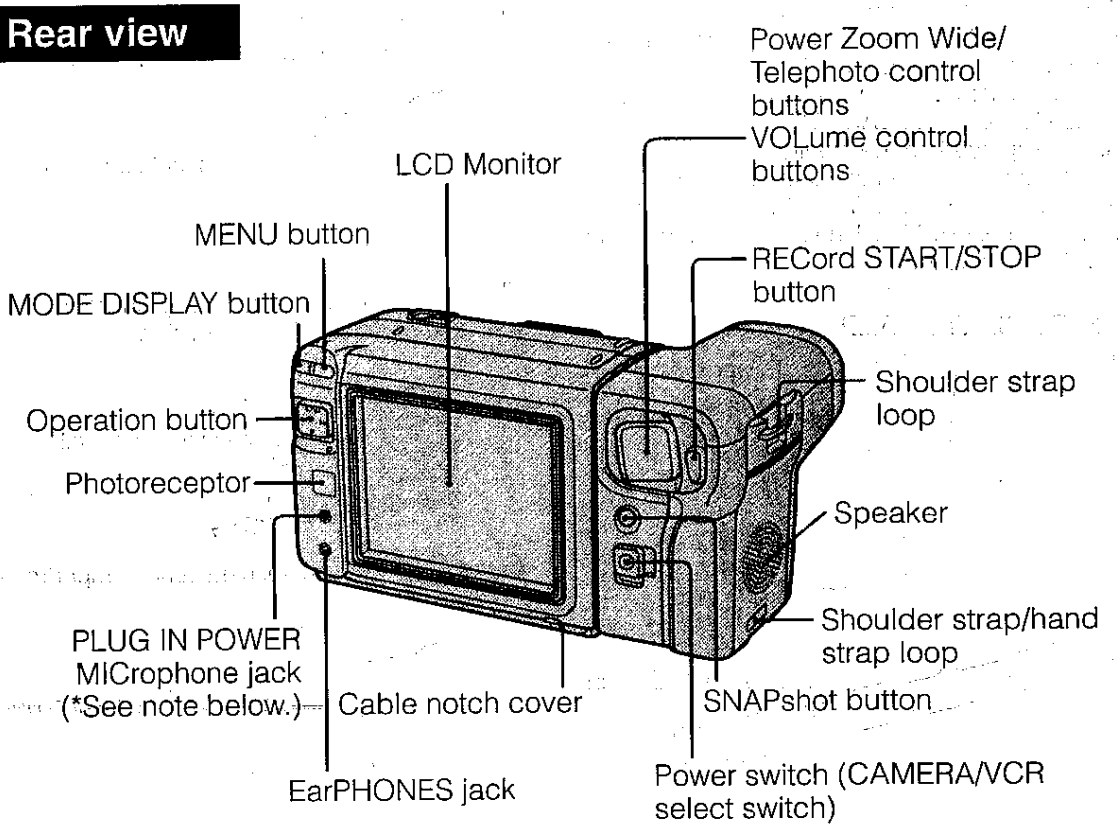


Removing the Lens Protector

Before mounting the optional wide or tele-photo conversion lens, remove the lens protector by turning it anticlockwise.



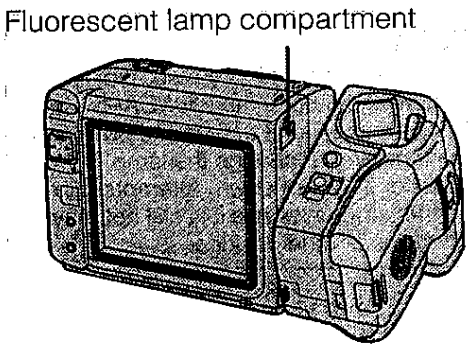
Rear view



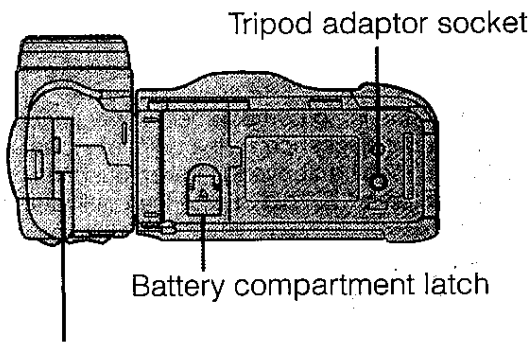
***About the PLUG IN POWER MIC Jack**
This external microphone jack outputs a DC voltage of 4.0 V. It is for use with the microphone supplied with the sports case optional accessory for this VIEWCAM, or with any 2.5–4.0 volt DC use condenser-type microphone with a 3.5 mm diameter plug. The use of other types of microphones may result in damage to the microphone or the VIEWCAM.

Side view

When camera module is rotated

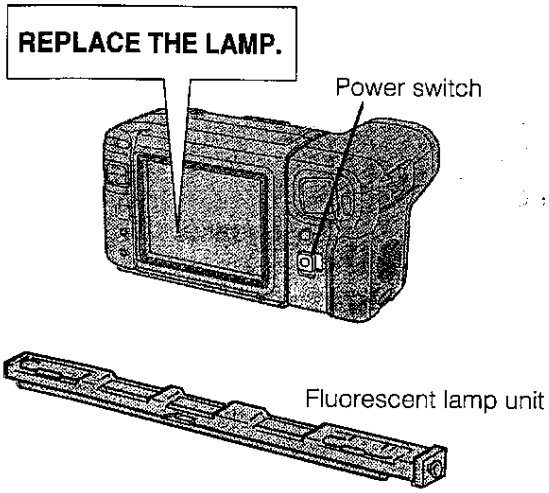


Bottom view



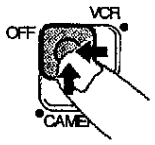
FLUORESCENT LAMP BACKLIGHT

The fluorescent lamp backlight used in this VIEWCAM will eventually need replacing. If you continue to use the VIEWCAM when the fluorescent lamp has almost reached the end of its service life, the "REPLACE THE LAMP." indicator will be displayed on the monitor for approximately one minute. When this occurs, purchase a replacement lamp (KLMPV0018TAZZ) from your dealer or a SHARP Full Line Parts Distributor, and replace the old lamp.

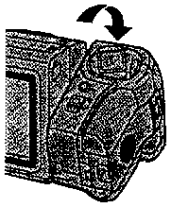


Replacing the Fluorescent Lamp Backlight

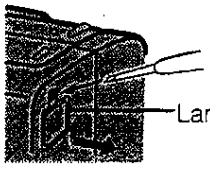
1 Set the Power switch to OFF to turn off the VIEWCAM, and wait about 15 minutes for the lamp unit to cool down.



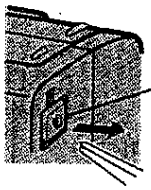
2 Rotate the camera module of the VIEWCAM halfway forward as shown.



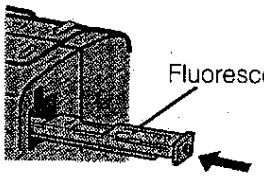
3 Remove the lamp compartment cover: insert a pointed object such as the point of a pen into the opening above the cover, push the cover release "▪" down, and then pull off the cover.



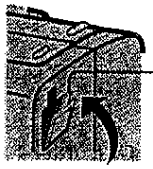
4 Carefully hold the end (white knob) of the lamp unit with tweezers, and pull it out.



5 Insert the replacement lamp unit into the compartment. See note below.



6 Replace the fluorescent lamp compartment cover.



Notes:

- In step 5 above, be sure to insert the replacement fluorescent lamp straight in, in the direction of the arrow, into the compartment. Do not press diagonally as it may cause contact failure.
- The fluorescent light may flicker when first turned on. Should this occur, turn off the VIEWCAM, and then turn it on again.
- When used in cold locations, the fluorescent lamp may lose some of its brightness.
- Remove the battery pack before replacing the fluorescent lamp.

Caution:

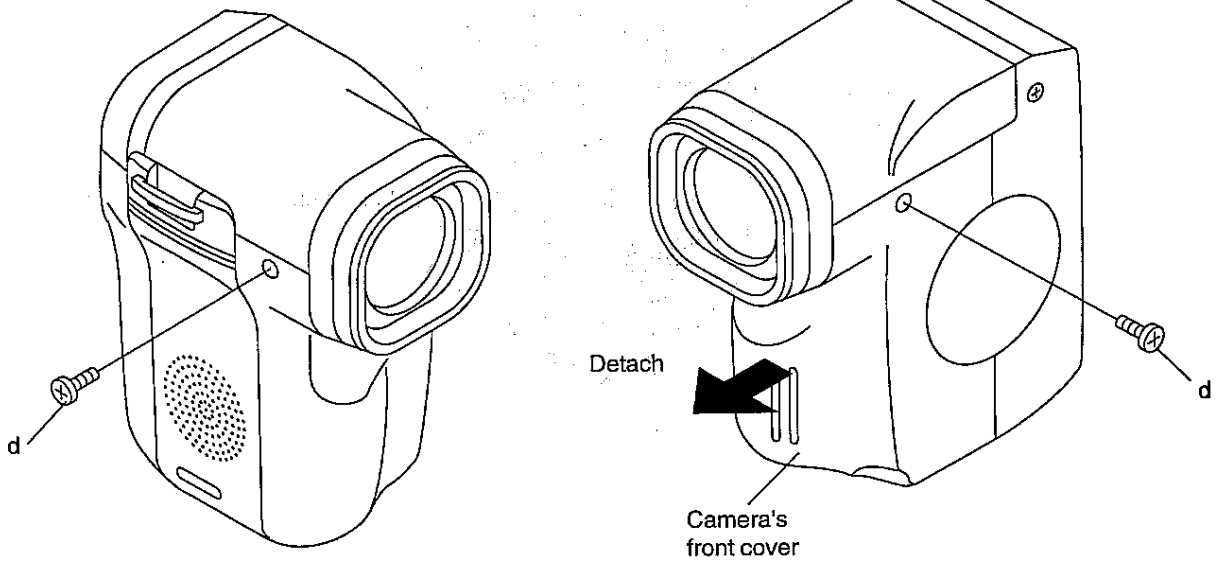
- The fluorescent lamp is hot during and immediately after use of the VIEWCAM. Wait at least 15 minutes after turning the power off before attempting to change the lamp, to allow time for it to cool down. Attempting to change the lamp unit while it is still hot may result in burns or other injuries.

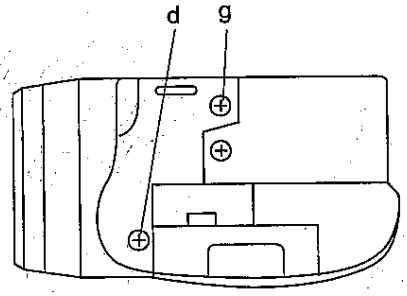
3. DISASSEMBLING THE SET

3-1. Removing the camera unit

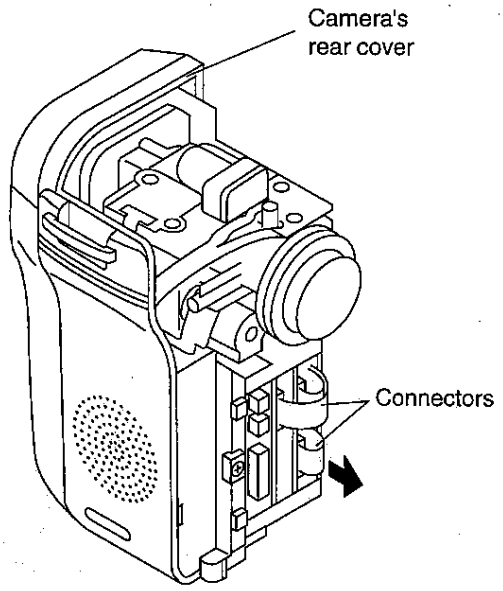
Caution: Before detaching the covers, be sure to turn off the power and make sure that there is no battery inside.

1) Remove the four screws and detach the camera's front cover.

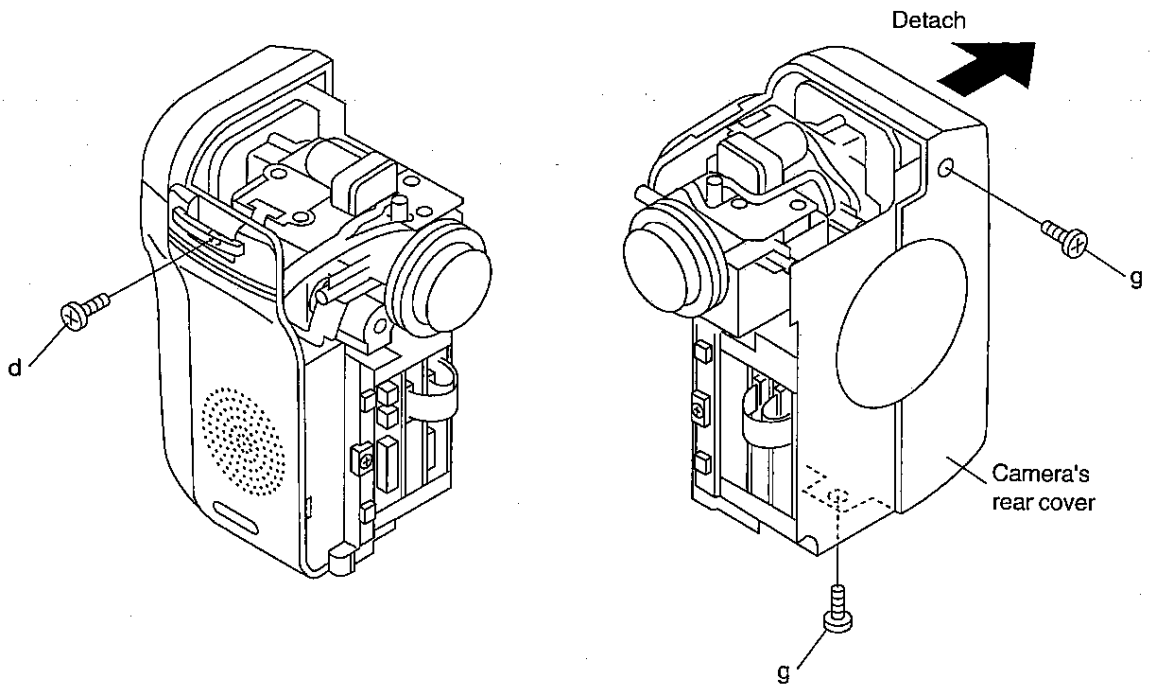




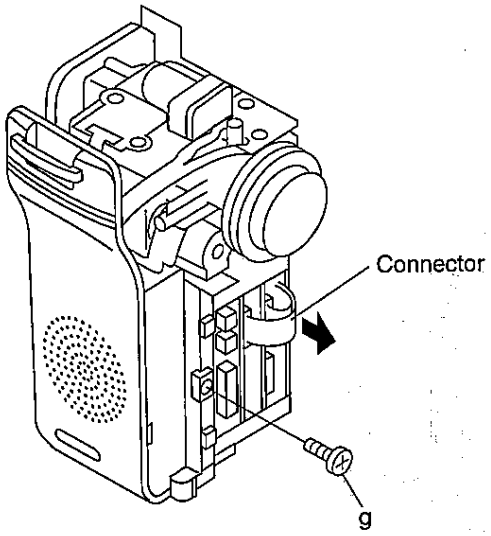
2) Disconnect the lower connector.

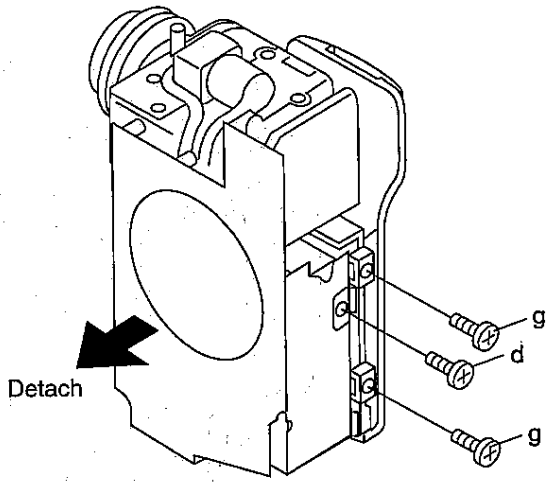


3) Remove the three screws and detach the camera's rear cover.

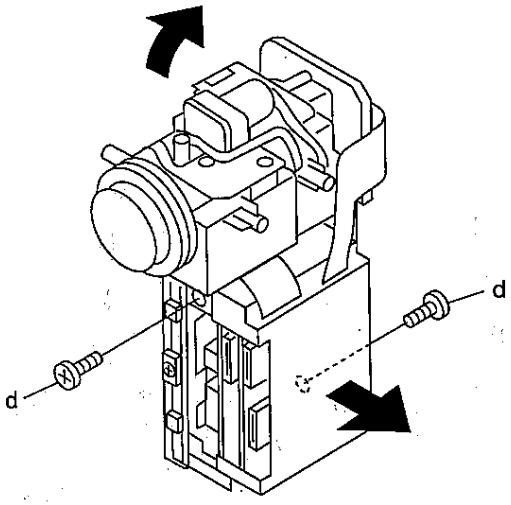


4) Disconnect the upper connector and the four screws.
Detach the side cover off the tilt frame C.





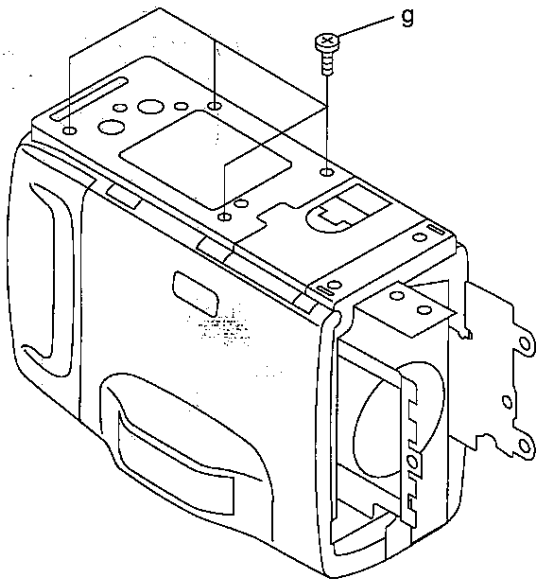
5) Remove the two screws, and take out the camera PWB unit and the lens unit together.



3-2. Disassembling the body

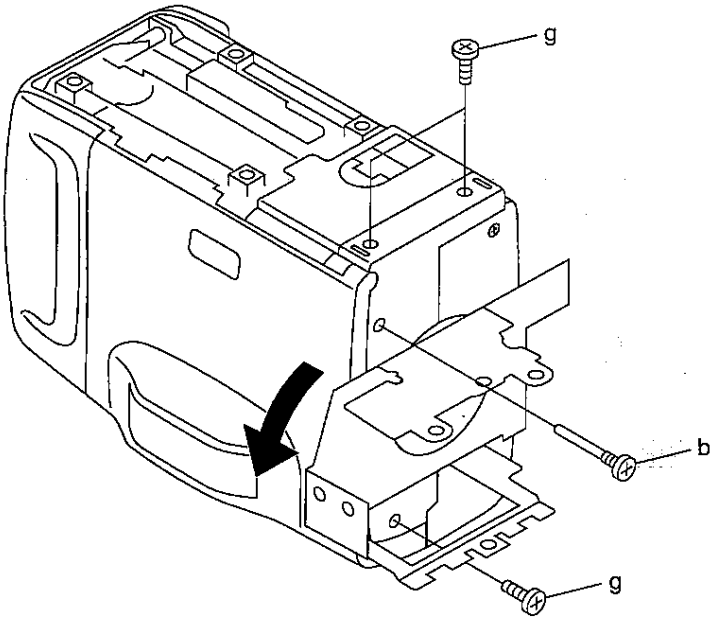
3-2-1. Removing the bottom cover

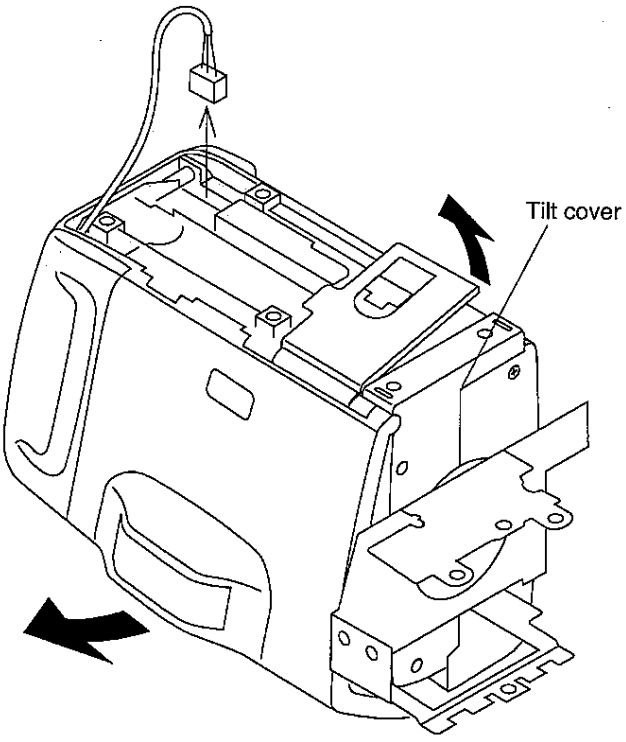
1) Remove the four screws and take the bottom cover assembly out of the body.



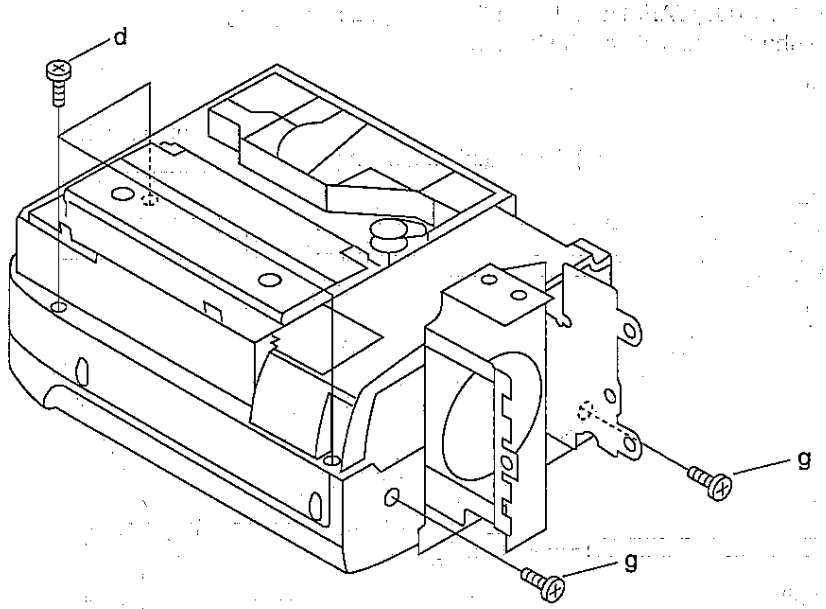
3-2-2. Removing the cabinet L

1) Remove the four screws, disconnect the connector, and open the VCR cover and the battery cover. Now detach the tilt cover.

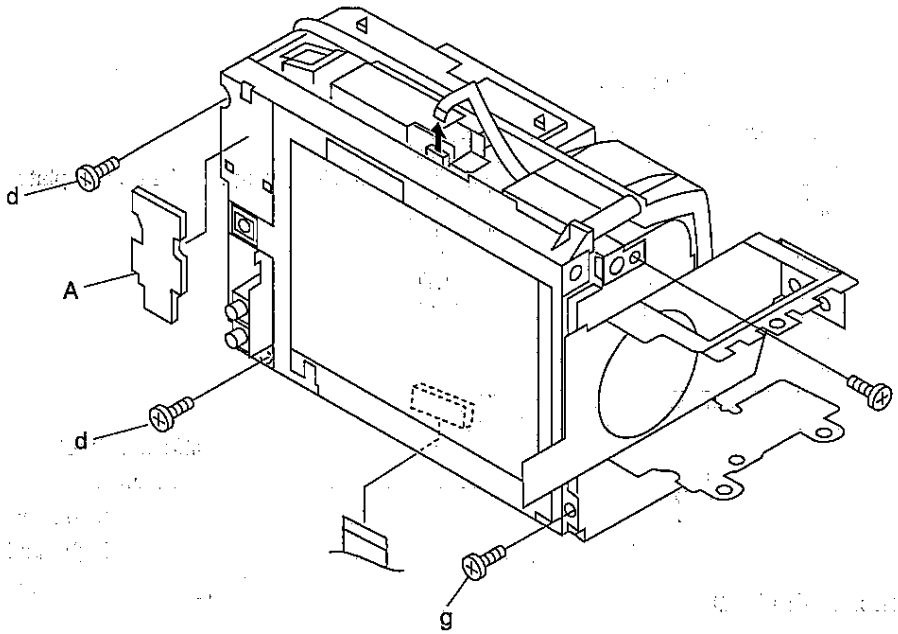




2) Remove the five screws and detach the cabinet L.

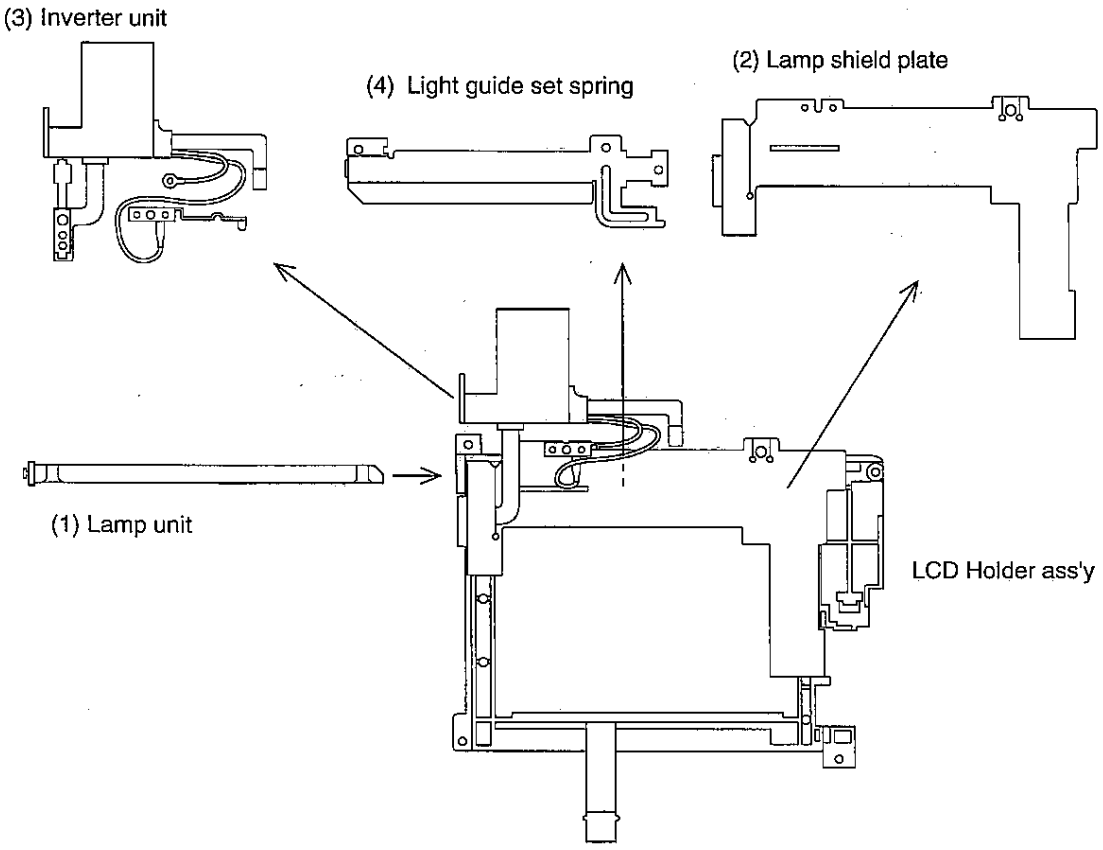


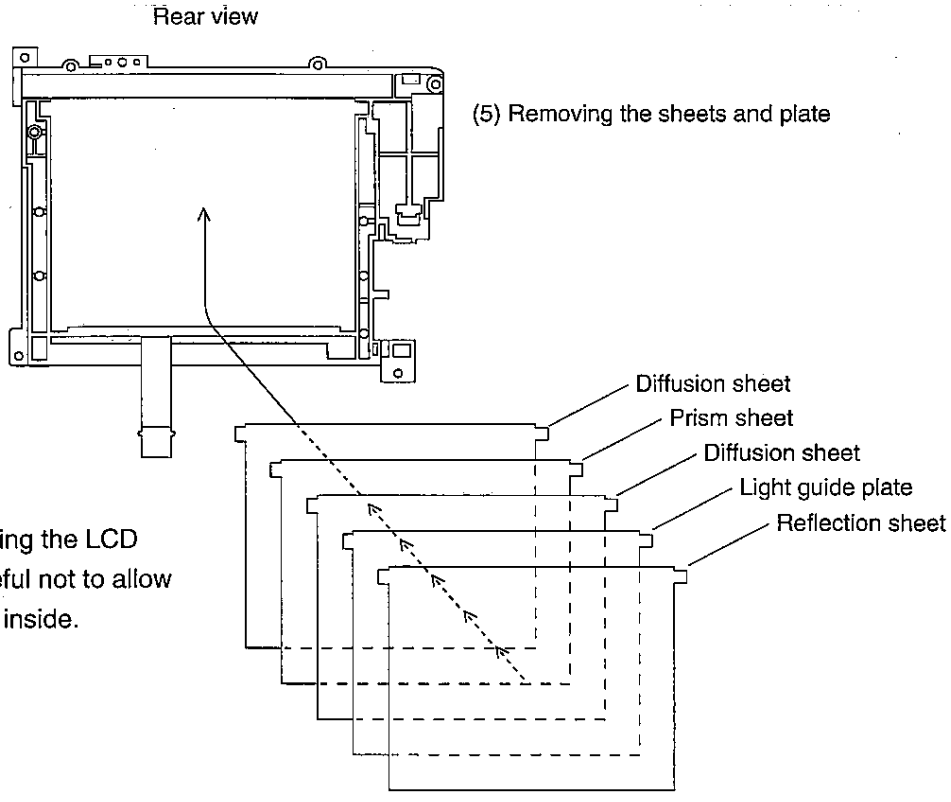
3) Detach the part A, remove the three screws, and disconnect the flexible cable connector. The LCD unit can now be taken out.



Removing the LCD unit

1. Draw the flurescent lamp unit out of the LCD holder.
2. Remove the two screws (LX-HZ0031TAFF) and detach the lamp shield plate.
3. Remove the screw (LX-HZ0031TAFF) and detach the inverter unit.
4. Remove the screw (LX-HZ0031TAFF) and detach the light guide set spring.
5. Finally detach all the sheets and plate off the holder.

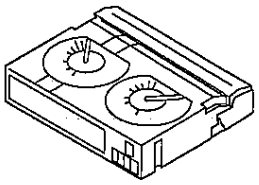
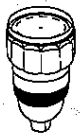
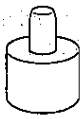
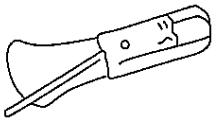
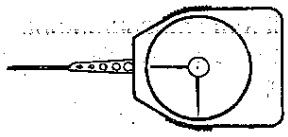
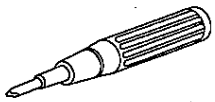
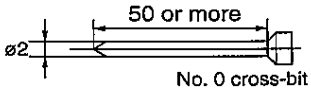
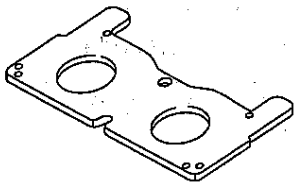
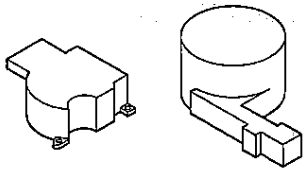
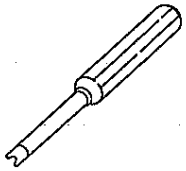
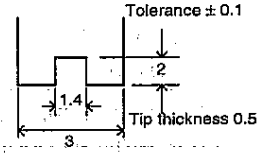


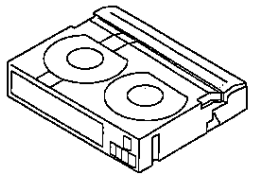


Caution: When reassembling the LCD unit, be very careful not to allow any dust and dirt inside.

4. MECHANISM ADJUSTMENT JIGS AND PARTS

4-1. Mechanism check adjustment jigs

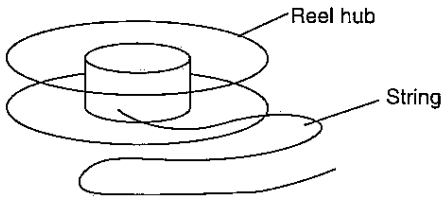
No.	Name	Part code	Shape	Model number and use
1.	PB-use cassette Torque meter	9DASD-1015		• SD-1015
2.	Torque gauge	JIGTG0045		• For use in VS-REW take up torque measurement
3.	Torque gauge head	9EQTGH-DH5000		• For use with the above torque gauge
4.	Tension gauge 4N (400gf)	JIGSG0400		• For measurement of pinch roller pressure.
5.	Dial tension gauge	9DAPTG-10-10W		• PTG-10
6.	Torque screwdriver 150mN•m (1.5kg•cm)	JIGTD1500RTDH		
7.	Master plane	9EQMP-DH5000		• For checking reel base height
8.	Height adjustment jig	9EQHG-DH5000		• For adjusting Tu guide height • For adjusting SI roller height
9.	Height adjustment screwdriver	9EQDRIVER-DH5		• For SI roller adjustment • For guide roller adjustment • For Tu guide adjustment • For reel base adjustment • Bit shape (see figure below) 

No.	Name	Part code	Shape	Model number and use
10.	Alignment tape	90ADVC-TAPEPAL		• For tape running adjustment (colour bar)
11.	Miscellaneous (1) Slide caliper (2) Precision screwdrivers (Phillips head and slotted) (3) Radio needle-nose pliers (4) Tweezers			

<How to make jigs for mechanism checking and adjustment>

(1)Reel hub for back tension measurement

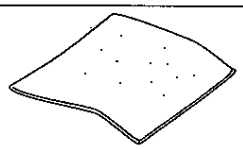
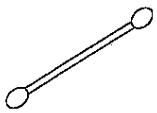
1) Obtain a commercially available cassette tape reel hub. (Disassemble the cassette tape and remove the tape from the reel hub.)
2) Paste one end of a string (about 20cm long) to the reel hub with (for example) cellophane tape.



(2)String for use in pinch roller snap-fit force measurement.

1) Obtain an approximately 20cm length of commercially available string (diameter about 0.3mm).
2) Tie the 2 ends together to form a loop.

4-2. Parts for regular periodic inspection and maintenance

No.	Name	Part code	Shape	Model number and use
1.	Oil (1) Cosmo Hydro HV22	9EQ-OiL-HV22		* Cosmo Petroleum K.K.
2.	Cleaning paper	JiGDUSPER		• DUSPER (SIGMA) (ozu Co., LTD.)
3.	Extremely thin cotton swab			• Commercially available item
4.	Grease: Moly Coat YM-103	99FGREASE-YM103		• Dow Corning
5.	Screw lock (1401B)			• Three Bond
6.	Cleaning liquid: industrial-use ethyl alcohol			• Commercially available item

5. INSPECTION AND MAINTENANCE ITEMS AND INTERVALS

In order to keep the mechanical section always in good condition, perform the following inspection and maintenance at regular intervals. In addition, after repair, perform the following maintenance items regardless of how long the user has been using the unit.

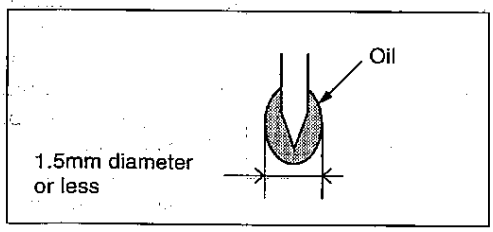
5-1. List of inspection and maintenance items

	Inspection and maintenance location	Time of use (h) 500	1,000	1,500	2,000	3,000	Symptoms that indicate need for maintenance	Remarks
Tape running system	Tape running section (see section 7-1)	□	□	□	□	□	• Block-type noise • Head hole clogging • Tape damage **Note:** Replace the drum ass'y if the video head is cleaned but its hole is still clogged.	<Rollers> • Replace if there is anything abnormal in the rotation, or if there is run-out (that becomes large). <Other than the above> • Clean the section that contacts the tape (especially the lower drum helical section). Use the specified cleaning liquid.
	Drum section, Video head (see section 7-1)	□	□	□	□	□		
Drive system	Timing belt	—	★	—	★	★	• The tape fails to run. • The tape becomes slack. • Block-type noise • Abnormal noise	• Replace if there is anything abnormal.
	Pinch roller	□	□	□	□○	□		
	Capstan motor	—	○	—	○	○		
	Swing arm Tu reel bases	—	★○	—	★○	★○		
	Center gear shaft PLAY gear shaft Fast gear shaft	—	△	—	△	△	• Abnormal noise	• Lubricate with oil. [Oil] Cosmo Hydro HV22 **Note:** Apply oil to the shaft, then wipe lightly with a cloth.
	Tension-arm shaft	—	△	—	△	△	• Tape damage • Abnormal played-back image	
	Loading motor Mode switch	—	★○	—	★○	★○	• Cannot eject. • Fails to enter a mode.	• Replace if anything is abnormal (including the noise).
Performance checks	Abnormal noise	★	★	★	★	★	• The tape fails to run. • The tape becomes slack. • Tape damage • The play-back image is abnormal.	• Replace any part that fails to perform within the standard.
	PB• VS/REW takeup torque	—	★	—	★	★		
	PB• VS/REW• FF• REW• loading back tension	—	★	—	★	★		
	Head cleaner	—	○	—	○	○		

[Oil] Cosmo Hydro HV22
[Grease] Moly Coat YM-103
[Screw lock] Three Bond 1401B
[Cleaning liquid] Industrial-use ethyl alcohol
○ • • • Replace. □ • • • Clean. △ • • • Lubricate. ★ • • • Check.

5-2. Precautions

(1) When replacing any part, always replace the cut washer that was removed with a new one.
(2) This mechanism does not have control adjustment. If the control cannot be set as required, clean and/or replace parts.
(3) On the oil
  a) Always use the specified oil. (Using another kind of oil can cause various kinds of trouble.)
  b) Always use clean oil, without any mixed-in dirt, to lubricate bearings. (Using oil with dirt mixed in can cause the bearings to wear or to stick.)
  c) One drop of oil is the amount shown in the figure below, on the point of a pin.



(4) Perform circuit repair, tape running adjustment, etc. with the Cassette control assembly attached to the mechanism
(5) To operate the mechanical section alone, apply voltage to the loading motor to drive it. The voltage between terminals must be DC3V or less. (Forcing the gears to turn by hand entails danger of breakage.)
(6) To install the cassette control, push section A in the figure below. Do not push anything else.
(7) Do not deform any of the mechanical parts.

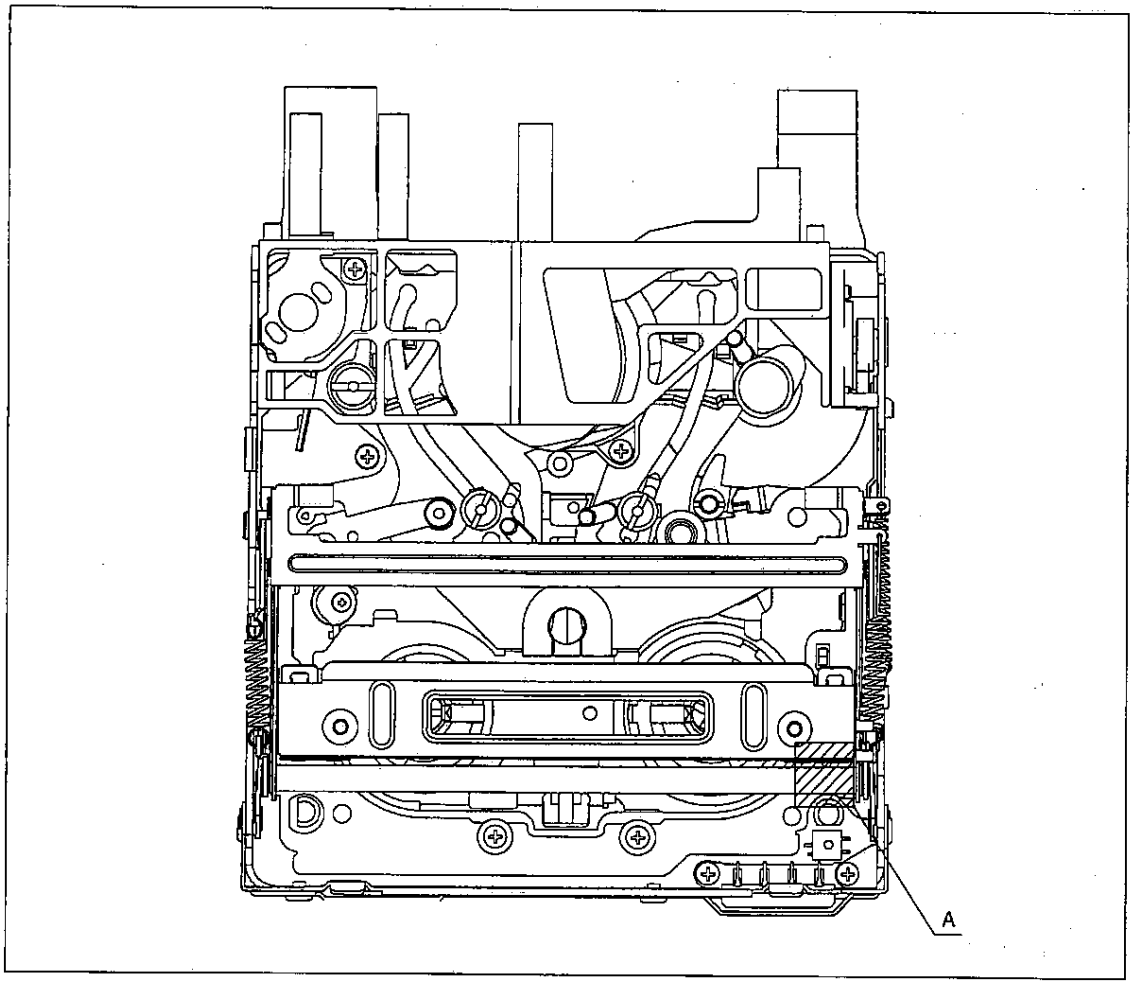


Fig. 1.

6. MECHANICAL ADJUSTMENTS AND CHECKS

The items discussed here relate to general on-site servicing (field servicing). Adjustments and replacements that require sophisticated facilities, jigs and technology are omitted.
In addition, in order to maintain the characteristics that the unit has when it is new, not only are inspection and maintenance necessary, but it is absolutely necessary that, for example, the tape not be damaged, and always use jigs for adjustments that require them.

<Precautions>
(1) Always set the power supply and state of the unit as follows for mechanism adjustments and checks.

AC adapter used, with cassette control assembly

- 6-1 Check of takeup torque during playback (recording)
- 6-2 Check and adjustment of back tension torque during playback (recording)

AC adapter used, without cassette control assembly (Independent Mechanism)

- 6-3 Check of reverse search (VS-REW) takeup torque

DC3V, without cassette control assembly (Independent Mechanism)

- 6-4 Check of reel base height
- 6-5 Check of tension post position
- 6-6 Check of FF back tension
- 6-7 Check of REW back tension
- 6-8 Check of loading back tension
- 6-9 Check of pinch snap-fit force

(2) When performing checks with a DC3V power supply and independent mechanism, disconnect the loading motor FPC from the connector.
(3) Always run the tape with the cassette control assembly attached.

6-1. Check of takeup torque during playback (recording)

(1) Set the torque cassette with the cassette control assembly attached, then, in recording mode (playback mode if a signal has already been recorded on the tape), confirm that the torque on the takeup side is within the standard.

Takeup Torque Standard During Recording (Playback)

0.65 ± 0.35mN•m (6.5 ± 3.5gf•cm),
ripple 0.2mN•m (2gf•cm) or less

(If there is torque ripple, read the center value.)

6-2. Check and adjustment of back tension torque during playback (recording)

(1) Checks
With the cassette control assembly attached, set the torque cassette in place, then, in recording mode (in playback mode if a signal has already been recorded on the tape), confirm that the supply side torque is within the standard.

Torque standard 0.65 ± 0.23mN•m (6.5 ± 2.3gf•cm)
(If there is torque ripple, read its center value.)

(2) Adjustment
If the torque is not within the standard, adjust the position at which the tension spring is attached in Fig. 5.
When the back tension torque is too high, move the spring attachment position in the A direction.
When the back tension torque is too low, move the spring attachment position in the B direction.

<Caution>
After adjusting the back tension torque, always check the tension post position.

6-3. Check of reverse serch (VS-REW) takeup torque

(1) Remove the cassette control assembly; then, referring to 8-3 (3) thru (5), insert thick paper between the DOWN switch and the Tu lock release lever; then run the unit in test mode (T01) and set the system into reverse search (VS-REW) mode.

(2) Set a torque gauge on the S reel base, then move the tension post tip in the direction of arrow A with a finger. With the tension post released, confirm that the takeup torque is within the standard. (Measure without rotating the torque gauge.)

Reverse search (VS-REW) takeup torque standard

2.0 ± 0.6mN•m (20 ± 6gf•cm),
ripple 0.4mN•m (4gf•cm) or less

(If there is torque ripple, read its center value.)

(3) After checking the takeup torque, remove the torque gauge, then remove the thick paper (refer to 8-3) that was inserted in (1). The system will automatically go into standby mode. (Absolutely do not press the EJECT lever on the VCR frame. There is danger that doing so will deform the lever and cams.)

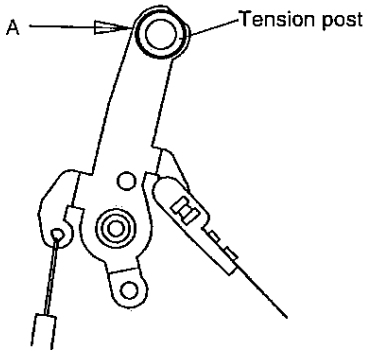


Fig. 2. How to release the tension band when measuring the reverse search (VS-REW) takeup torque.

6-4. Check of reel base height

(1) Remove the cassette control assembly (refer to 8-2).

(2) Referring to 8-1, apply DC3V to the loading motor and put the system into FF (REW) mode.

(3) Taking adequate care so that the master plane does not contact drum, running parts (guide roller, etc.), or the MIC contacts. Fit the master plane holes to the 2 guides (A and B) in Fig. 3.

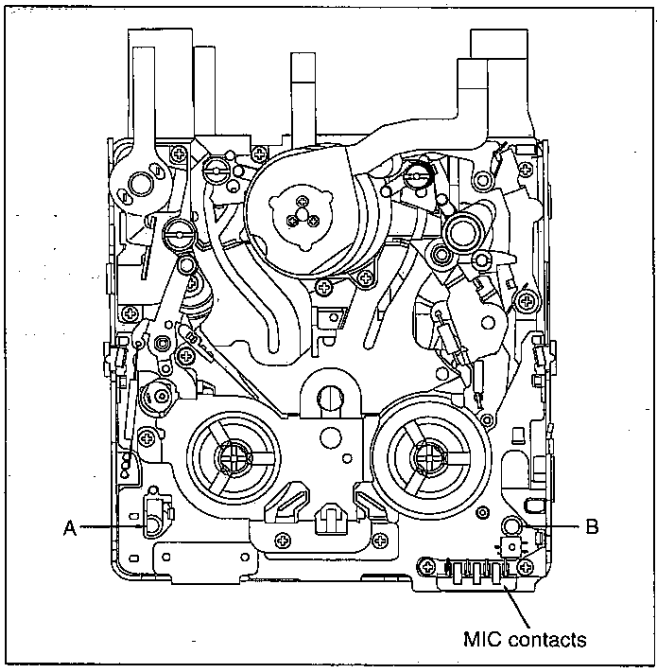


Fig. 3.

(4) Confirm that the heights of the S reel base reel receiving surface and the Tu reel base reel receiving surface below the master plane top surface are within the set values, using, for example, a slide calliper (Fig. 4).

(5) If these heights are not within the set values, turn the reel cap with a height adjustment screwdriver to adjust until they are within the set values.

Note: After the adjustment, make sure that the reel bases rotate smoothly. (To check the Tu reel base, release the down switch and take-up lock release-lever, referring to 8-3-(3) thru (5).)

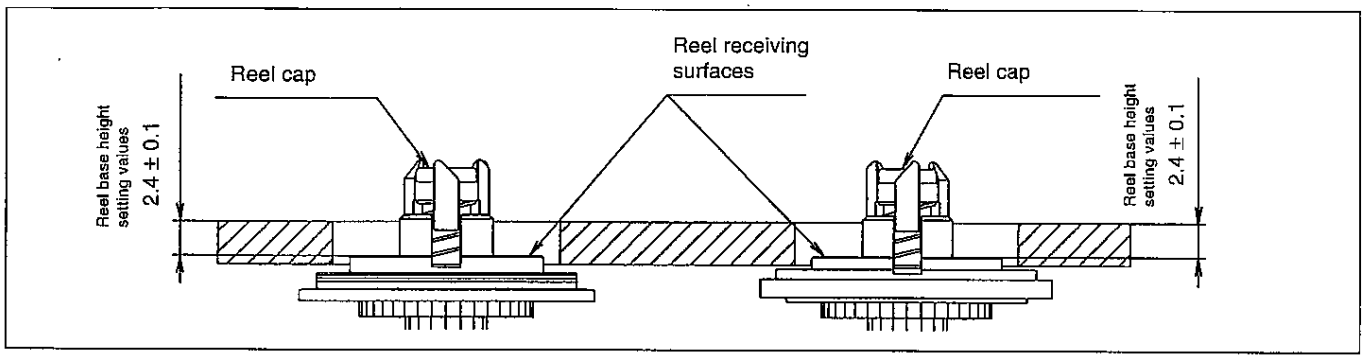


Fig. 4.

6-5. Check of tension post position

(1) Remove the cassette control assembly, then apply DC3V to the loading motor and put the system into PB mode (without tape).
Confirm that the tension post is $8.5^{\ 0}_{-0.5}$ mm from the inner wall of the main chassis, as shown in Fig. 5.

(2) If it is not at the prescribed position, adjust by turning the eccentric pin.
When the tension post is too far toward the outside, turn the eccentric pin clockwise.
When the tension post is too far toward the mechanism center, turn the eccentric pin counterclockwise.

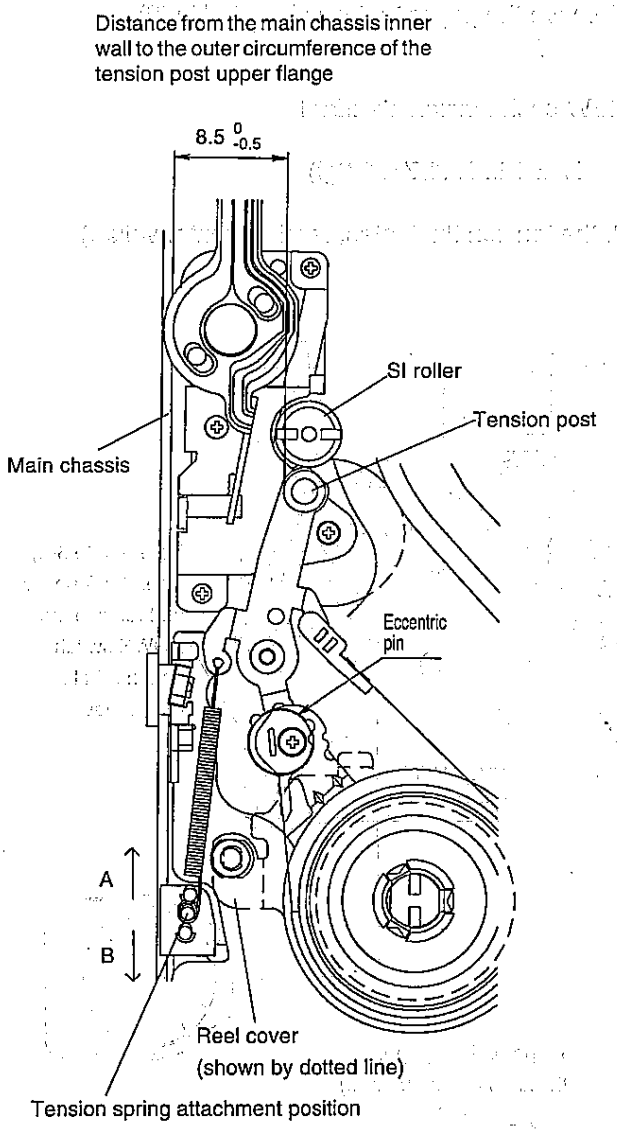


Fig. 5.

6-6. Check of FF back tension

(1) Remove the cassette control assembly, then apply DC3V to the loading motor and put the system into FF mode (refer to 8-1).
(2) Turn the mechanism over, then move the swing arm to the Tu reel base side, for example by using the tip of a screwdriver (refer to Fig. 7).
(3) Set a back tension measurement reel hub on the S reel base.
(4) Using a dial tension gauge, pull the string in the A direction, then confirm that the tension is within the standard.

FF back tension standard

17 ± 12mN (1.7 ± 1.2gf)

(If the tension fluctuates, read its center value.)

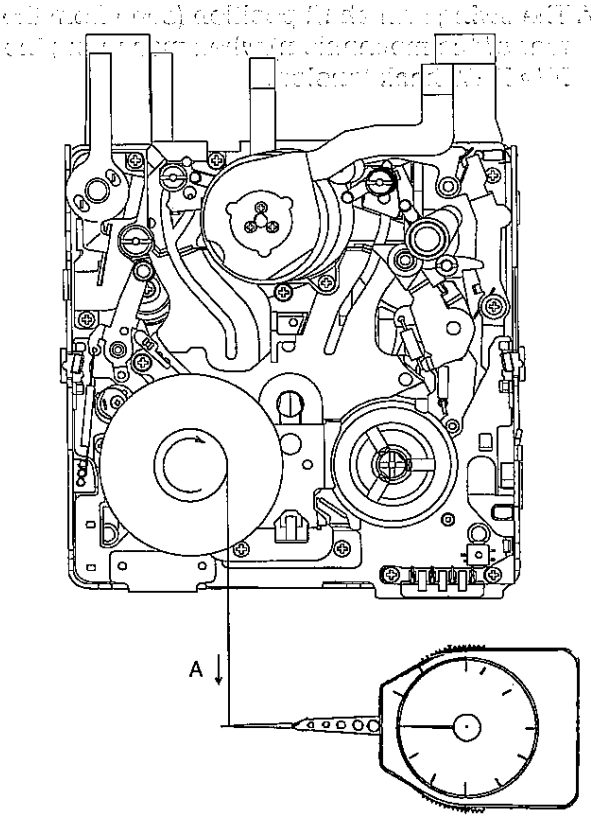


Fig. 6. How to measure the FF back tension.

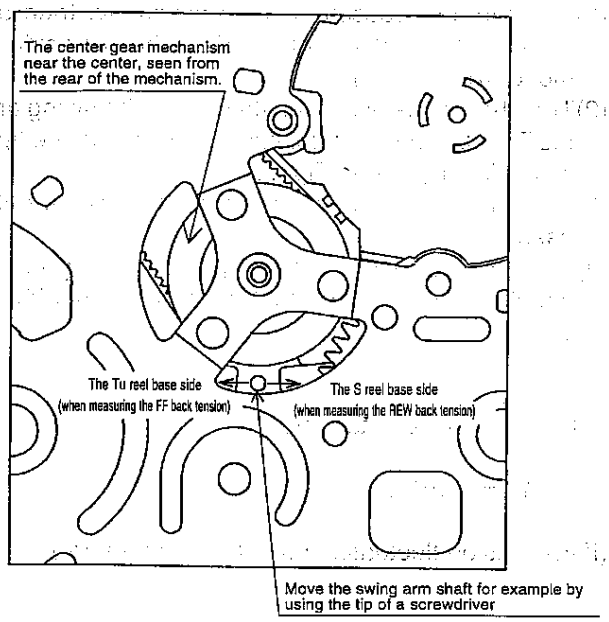

The center gear mechanism near the center, seen from the rear of the mechanism.
The Tu reel base side (when measuring the FF back tension)
The S reel base side (when measuring the REW back tension)
Move the swing arm shaft for example by using the tip of a screwdriver

Fig. 7. The swing arm shaft position (seen from the rear of the mechanism) when measuring the FF • REW back tension.

6-7. Check of REW back tension

(1) Remove the cassette control assembly, then apply DC3V to the loading motor and put the system into REW mode (refer to 8-1).
(2) Referring to 8-3 (3) thru (5), insert thick paper, then release the DOWN switch and the Tu lock release lever.
(3) Turn the mechanism over, then move the swing arm toward the S reel base side, using for example the tip of a screwdriver (see Fig. 7).
(4) Set a back tension measurement reel hub on the Tu reel base.
(5) Using a dial tension gauge, pull the string in the A direction, then confirm that the tension is within the standard.
(6) Remove the paper that was inserted in (2).

REW back tension standard

17 ± 12mN (1.7 ± 1.2gf)

(If the tension fluctuates, read its center value.)

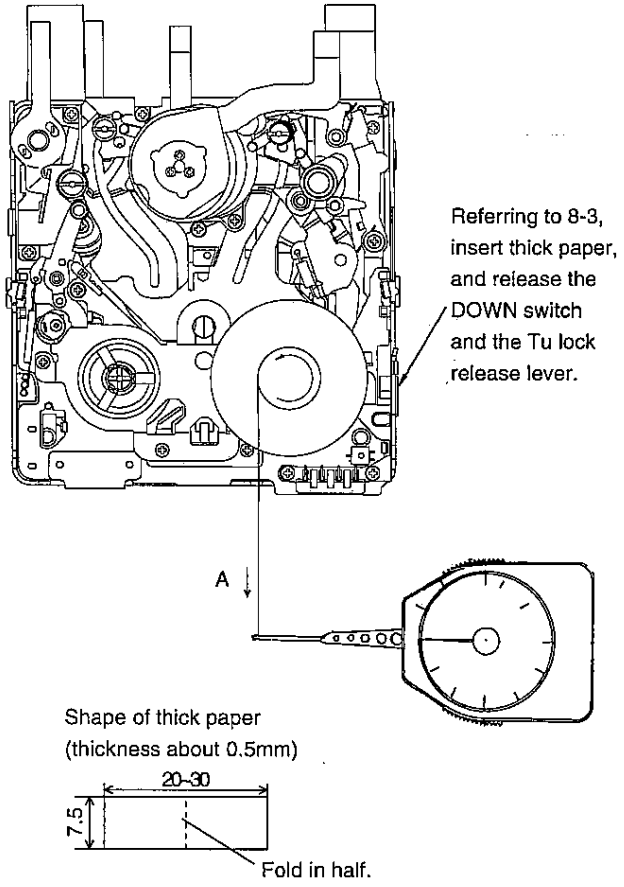

Referring to 8-3, insert thick paper, and release the DOWN switch and the Tu lock release lever.
A
Shape of thick paper
(thickness about 0.5mm)
20-30
7.5
Fold in half.

Fig. 8. How to measure the REW and loading back tension.

6-8. Check of loading back tension

(1) Remove the cassette control assembly, then apply DC3V to the loading motor and put the system into standby mode (refer to 8-1).
(2) Referring to 8-3 (3) thru (5), insert thick paper, and release the DOWN switch and the Tu lock release lever.
(3) Turn the mechanism over, then move the swing arm to the S reel base side, for example with the tip of a screwdriver (see Fig. 7).
(4) Set a back tension measurement reel hub on the Tu reel base.
(5) With the dial tension gauge, pull the string in the A direction and confirm that the tension is within the standard. (If the tension fluctuates, read the center value.)
(6) Remove the paper that was inserted in (2).

Loading back tension standard value
40 ± 30mN (4 ± 3gf)

6-9. Check of pinch snap fit force

(1) Remove the cassette control Assembly.
(2) Attach a pinch roller snap fit force measurement string to the pinch roller.
(3) Apply DC3V to the loading motor and put the system into playback mode, then snap-fit the pinch roller onto the capstan shaft.
(4) Hook a tension gauge onto the pinch roller snap fit force measurement string, then, as shown in Fig. 9, pull the string in the direction of the light guide to gradually remove the pinch roller from the capstan.
(5) When the pinch roller has come off of the capstan shaft, read the tension gauge value.

<Standard>
2.2 ± 0.6N (220 ± 60gf)

<Caution>
After making this measurement, quickly release the system from playback mode and remove the pinch roller from the capstan shaft. (If the pinch roller is left fitted onto the capstan shaft for a long time, the pinch roller will be deformed.)

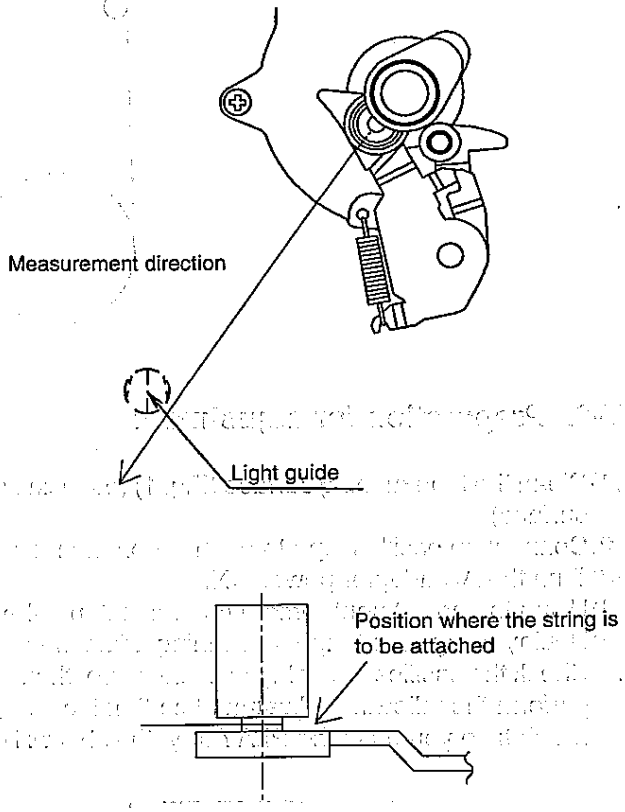
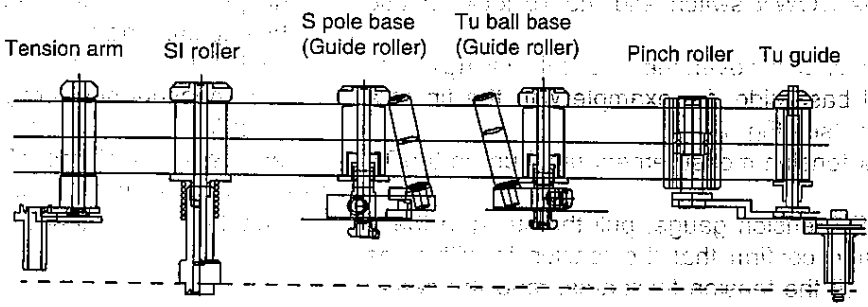


Fig. 9.

7. TAPE RUNNING ADJUSTMENT

Always make the tape running adjustment with the cassette control ass'y attached to the mechanical section.

7-1. Adjustment locations



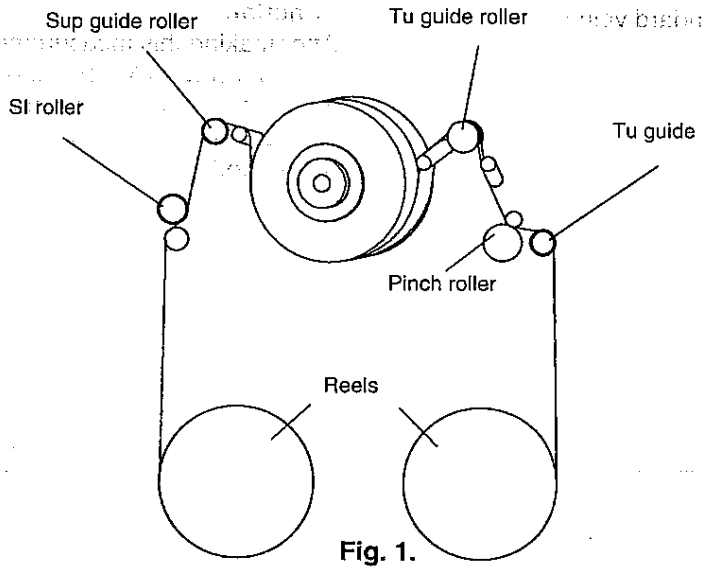
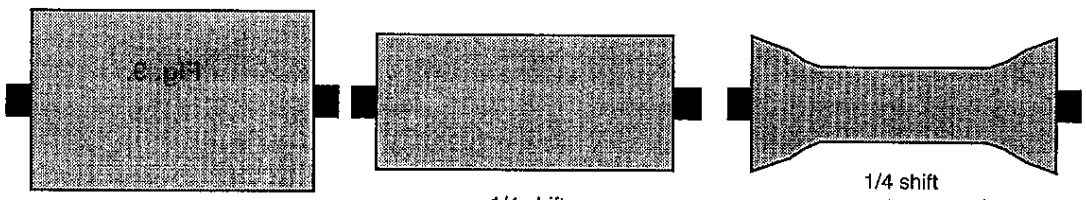


Fig. 1.

7-2. Preparation for adjustment

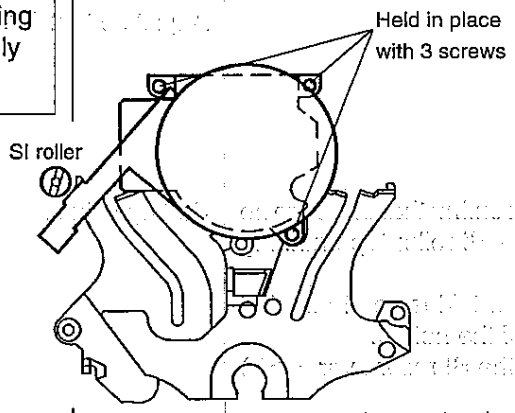
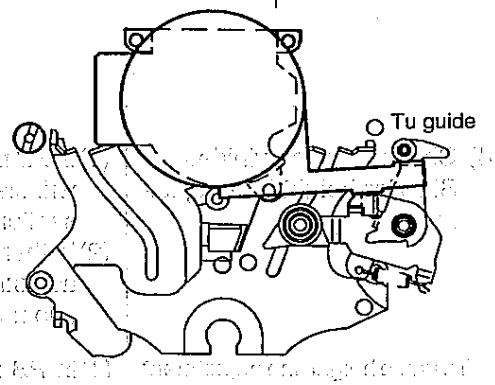
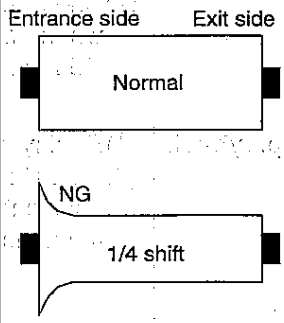
(1) Clean the tape running surface (Fig. 1) (especially, adequately clean the drum surface and the lower drum helicam surface).
(2) Connect an oscilloscope to each TP on the relay circuit board.
(3) Turn the AC adapter power ON.
(4) Using the adjustment remote control unit, put the system into TEST mode T05.
(5) Replay a alignment tape for running adjustment.
(6) Check the oscilloscope playback envelope, then, at +1/4 shift and -1/4 shift, check whether all of it is flat. If it is not, perform the following adjustment so that it becomes flat.
(Each time you push the PLAY key, the shift will change; +1/4 shift → Normal → -1/4 shift → Normal, in order.)

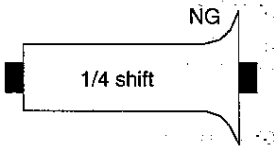
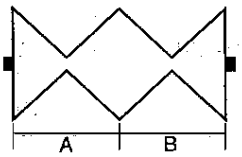
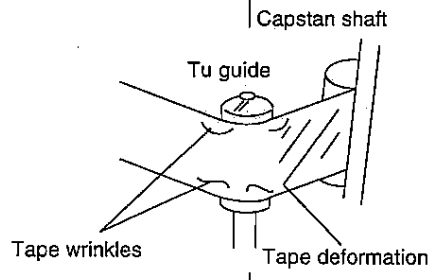


7-3. Steps to perform

(1)Check and adjust the SI roller and the Tu guide height.
(2)Adjust the Sup/Tu guide roller height.
(3)Check the reverse search (VS-REW) envelope waveform.
(4)Check the tape wrinkles.
(5)Check the envelope rise.
(6)Check the playback SWP.

<Checks and Adjustments>

Checks and adjustments	Method	Setting values and precautions	Measuring instruments and jigs
1) SI roller/Tu guide height Note) Perform adjustment 1) only when replacing that part itself; when replacing other parts, perform only the fine adjustment 4).	(1)Using a height adjustment jig, check whether the heights of each part match the preset positions. If they do not match, adjust so that they match the jig.  **Fig. 2.**	Setting values  **Fig. 3.**	• Oscilloscope • Height adjustment jig • Height adjustment Screwdriver
When performing the Tu guide adjustment, apply a voltage of 3V to the loading motor, then pull the Tu guide out to the position in Fig. 3.	 		
2) Sup guide roller height	(1)Loosen the guide roller lock screw, then tighten loosely so that the roller turns easily. (2)Replay an alignment tape, and adjust the Sup guide roller so that the envelope entrance side is flat. (3)Perform a 1/4 shift, then, as in the above case, adjust until the envelope becomes flat. (4)Tighten up the Sup guide roller lock screw.	Setting values  	• Oscilloscope • Adjustment remote control • Height adjustment screwdriver • Alignment tape

Checks and adjustments	Method	Setting values and precautions	Measuring instruments and jigs
Tu guide roller height	(1)As in the case of Sup, adjust the guide roller height so that the envelope becomes flat.	Setting values 	
3) Check of reverse search (VS-REW) envelope waveform	(1)Confirm that the envelope waveform peaks in reverse search (VS-REW) mode are uniform. (2)If they are not uniform, fine-adjust the guide roller and the Tu guide.	Setting values  Adjust so that A ≒ B.	• Oscilloscope • Height adjustment screwdriver • Alignment tape
4) Check of tape wrinkles SI roller height fine adjustment	(1)In PB mode, confirm that there are no wrinkles in the SI roller tape running section. (2)If there are wrinkles, perform fine adjustment of the height. (Do not turn the SI roller over ±45°.)	Setting values	• Height adjustment screwdriver • Alignment tape • Screw lock
Tu guide height fine adjustment	(1)In PB mode, check whether tape is being deformed between the Tu guide and the pinch roller, and whether the tape is becoming wrinkled on the upper or lower flange. (2)In reverse search (VS-REW) mode, check for deformation and wrinkles, as above. (3)If the tape is becoming wrinkled, perform fine adjustment of the Tu guide height. (4)Apply screw lock to the Tu guide upper flange.		
5) Check the rising time of the envelope.	(1)Check the rising time of the envelope when switching from reverse search (VS-REW) mode to PB mode. (2)Check the rising time of the envelope when switching from STOP mode to PB mode.	Setting value: With in 5 second.	
6) Adjustment of playback SWP	(1)Replay an alignment tape. (2)Using the adjustment remote control unit, enter SWP automatic adjustment mode.		• Alignment tape

8. MECHANICAL SECTION ASSEMBLY AND PARTS REPLACEMENT (DISASSEMBLY AND REASSEMBLY)

Mechanical section disassembly and reassembly are explained in this section.
For removal of the cabinet, etc., refer to **3. DISASSEMBLING THE SET.**

<Precautions>

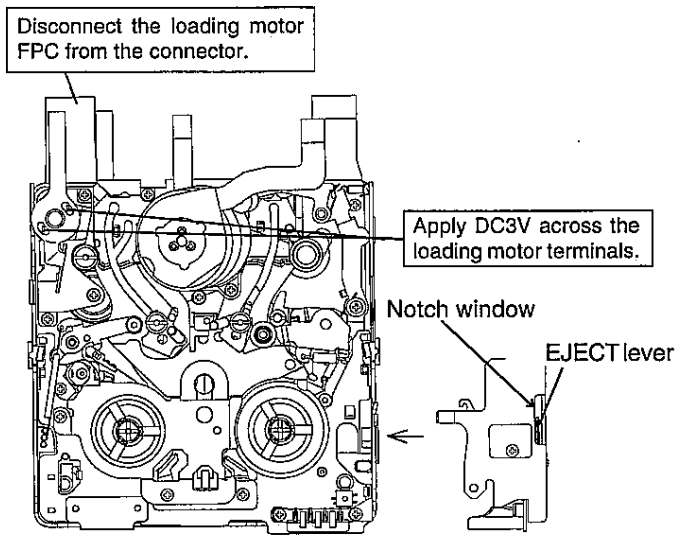
1. Always replace cut washers that have been removed, for example in parts replacement, with new ones.
2. Turn the mechanical section over; do not place it on, for example, a desk. Deformation and scratching of mechanical parts can cause trouble.
3. When reassembling, be careful not to allow screws, washers or foreign matter to enter. They can cause mechanical misoperation.
4. Use the cleaning liquid, oil, grease and screw lock that are specified below. Use of any other kind can cause mechanical misoperation.
   Oil: Cosmo Petroleum : Cosmo Hydro HV22
   Grease: Dow Corning : Moly Coat YM-103
   Screw lock: Three Bond :1401B
   Cleaning liquid: Industrial-use ethyl alcohol

8-1. On the mechanical modes

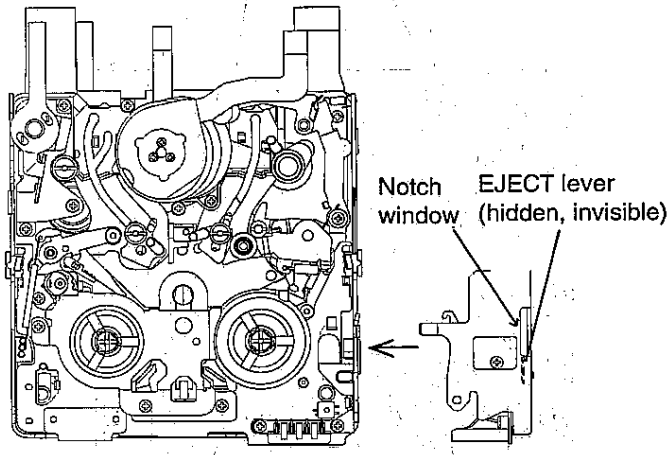
To operate the mechanism, apply DC3V to the loading motor.
At this time, disconnect the loading motor FPC from the connector.

(1)EJECT mode
In the mechanical position in which a cassette is ejected, the EJECT lever, which is not visible through the notch window at the bottom of the chassis right side in standby mode, moves to a position where it is visible in this mode.

(2)STANDBY mode
In the mechanical position in which the cassette is loaded, the EJECT lever, which was in a position where it was visible through the notch window at the bottom of the chassis right side in EJECT mode, becomes invisible in this mode, so that it can be locked when the cassette control assembly is moved down.

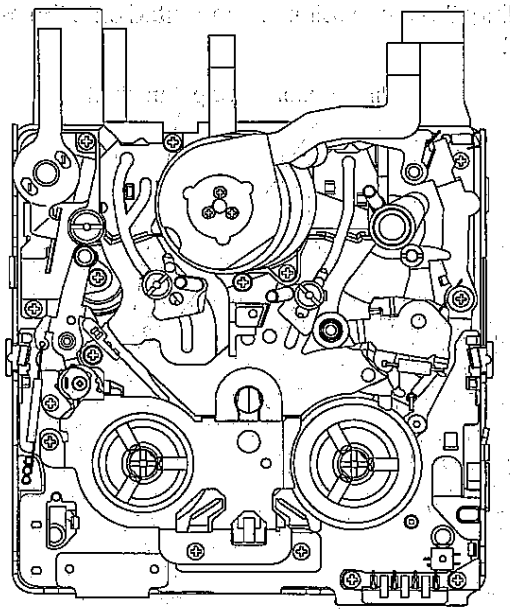

Disconnect the loading motor FPC from the connector.
Apply DC3V across the loading motor terminals.
Notch window
EJECT lever

EJECT mode diagram



STANDBY mode diagram

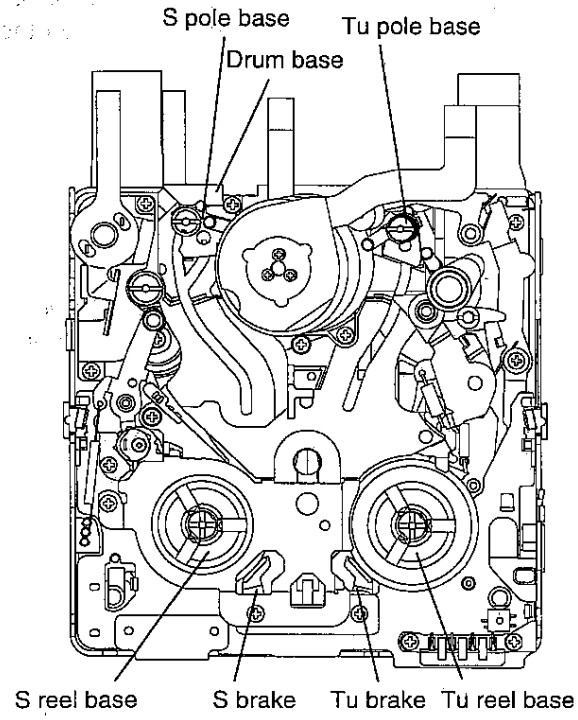
(3)MIDDLE POINT mode
This is the mode where the tape is wound around the take-up reel when a cassette with visible wind start leader tape is loaded.



MIDDLE POINT mode diagram

(4) STOP mode

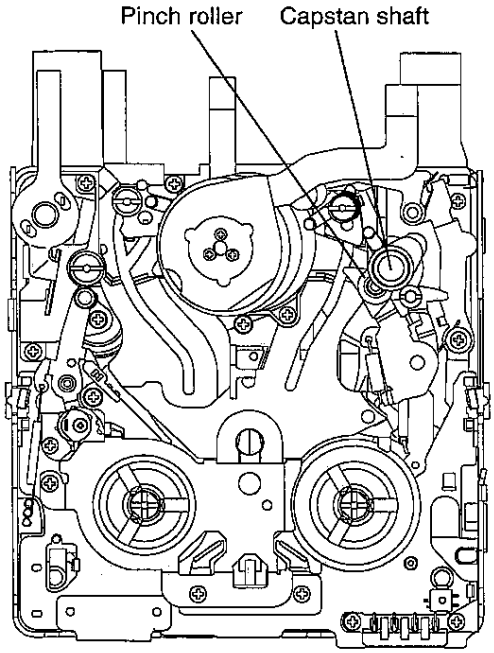
The system is in the STOP (Rec Lock in CAMERA mode) position; the S and the Tu pole bases are snap-fitted to the drum base, the S brake is in contact with the S reel base, and the Tu brake is in contact with the Tu reel base.



STOP mode diagram

(5) PB (Rec) mode

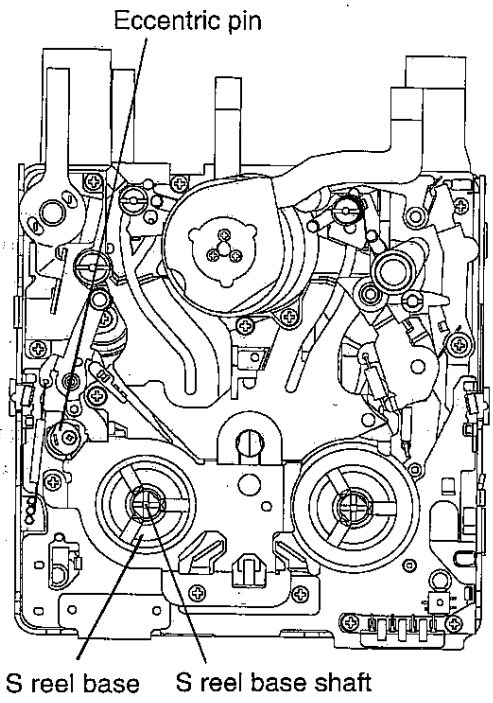
This is the mechanical position for playback and recording; the pinch roller is snap-fitted onto the capstan shaft.



PB (REC) mode diagram

(6) FF (REW) mode

This is the mechanical position for fast forward and rewind; compared to STOP mode, the eccentric pin rotates counterclockwise, centered on the S reel base shaft.



FF (REW) mode diagram

8-2. Cassette control assembly

Cassette control assembly (see Fig. 2)

<Removal>

(1) Remove the cassette control cover.

(2) Press the EJECT lever of the VCR frame to raise the cassette control. Or, in STANDBY mode, push the lock lever in the direction of the arrow to raise the cassette control. (See Fig. 1; direction (a) or direction (b).) (When pushing in direction (a), lift the cassette control lightly by hand to release it.)

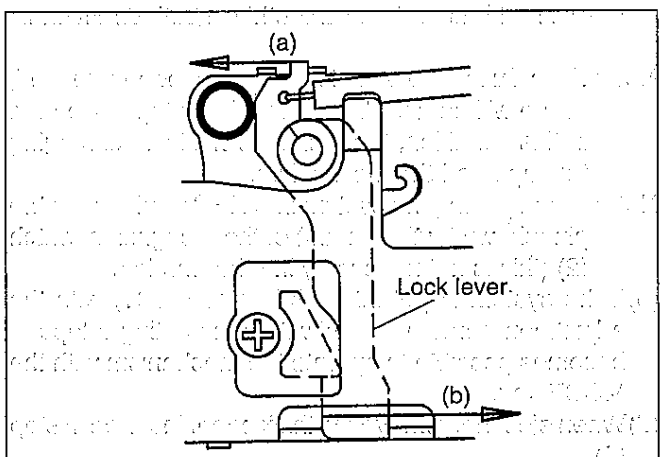


Fig. 1 Lock lever.

(3) Remove the drum cover.

(4) Remove the 4 screws (c), then remove the DOWN guide (d).

(5) Remove the screw (e), then slide the damper (f) to remove it, then remove the auxiliary spring (g) from the main chassis.

(6) Remove the cassette control outer ring shafts (2 locations (h)) from the main chassis grooves (2 locations (i)), then place them on section (j) (shown by slanting lines).

(7) While holding the cassette control in the down position, slide the inner arm shaft (k) to the rear of the main chassis groove (round hole (l)). (At this time be careful that the damper lever (m) does not catch on the AHC release spring.)

(8) While bending the inner arm shaft (k) slightly toward the inside, release it from the main chassis groove. (At this time be careful not to deform the inner arm.)

<How to attach>

(1) Put the system into STANDBY mode (refer to 8-1 (2)).

(2) Insert the inner arm shaft (k) into the main chassis groove (l) (as when it was removed, be careful not to deform the inner arm).

(3) Place the outer link shaft (h) on section (j) of the main chassis, then, while pressing slowly on the cassette control from above, slide the shaft (h) forward and hook it on section (i) of the main chassis.

(4) Attach the auxiliary spring (g) and the damper (f). Tightening torque 70 ± 7mN•m (0.7 ± 0.07kg•cm)

(5) Attach the DOWN guide. (When attaching it, press on section (n) while tightening the screw.) Tightening torque40 ± 4mN•m (0.4 ± 0.04kg•cm)

(6) Attach the drum cover and the cassette control cover.

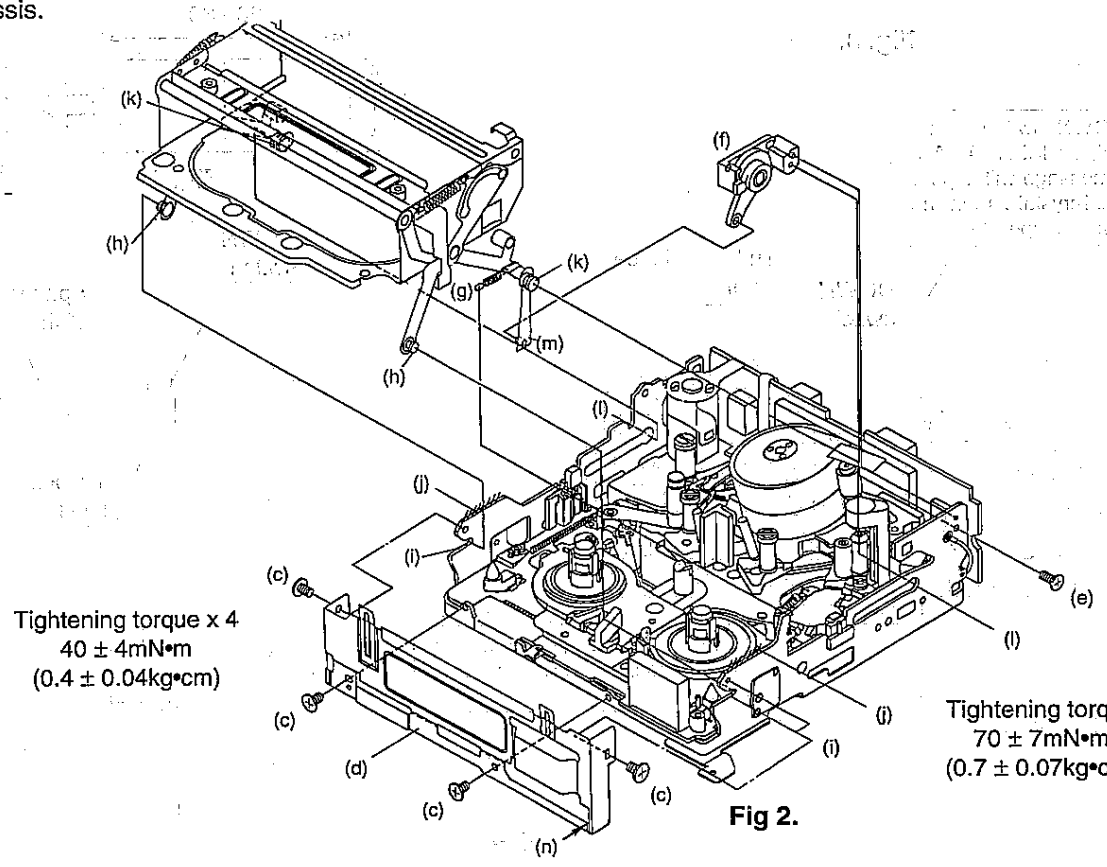


Fig 2.

8-3. How to operate with the circuit board without the cassette control assembly.

In this method, if the procedure is followed incorrectly there is danger of damaging the mechanism and the tape, so except in special cases, such as when measuring the reverse search (VS-REW) torque, do not perform this procedure. Normally operate this unit with the cassette control assembly attached.
Be sure to follow each caution mentioned.

(1) Put the system into EJECT mode.
(2) Connect the mechanical section to the main circuit board with the FPC jig for relay use. (Refer to 9-1.)
(3) Remove the lock cam (1).

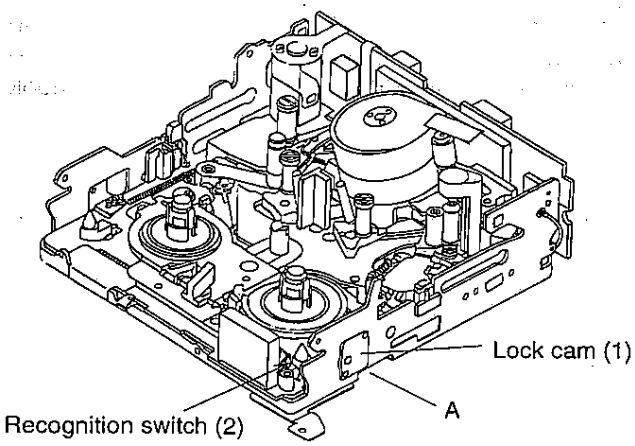
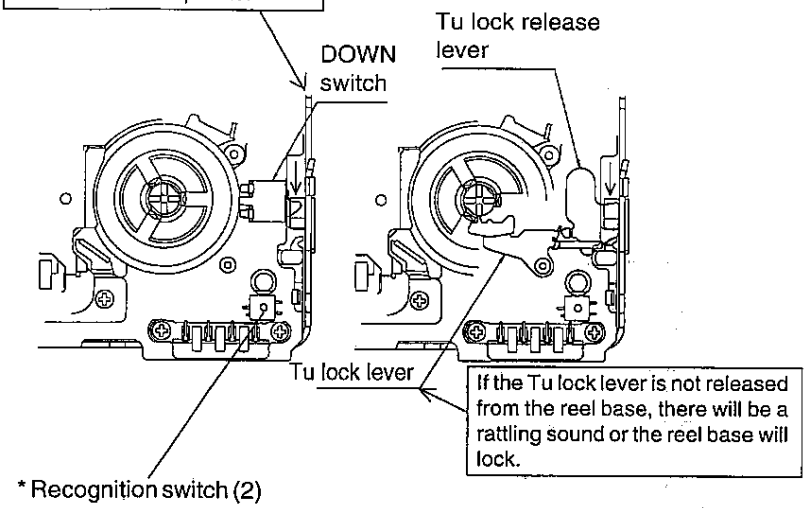


Fig. 3.

If the DOWN switch is not turned ON, a "INSERT A CASSETTE" message will appear on the liquid crystal screen and the unit will not operate.


DOWN switch
Tu lock release lever
Tu lock lever
If the Tu lock lever is not released from the reel base, there will be a rattling sound or the reel base will lock.
* Recognition switch (2)

(4) From the front side of the mechanism, while pushing the DOWN switch and the Tu lock release lever in the direction of the arrow in Fig. 5, for example with a slotted screwdriver, insert the thick paper (about 0.5mm thick) shown in Fig. 4 from the rear side of the mechanism as shown in Fig. 5, then release the DOWN switch and the Tu lock release lever (do this in such a way that the switch will come ON). At this time, be careful not to deform the Tu lock release lever.
(5) After releasing the Tu lock release lever, confirm that the Tu reel base rotates smoothly in both directions.

Note) If the Tu lock release lever has not been released, There will be a rattling sound; If the tape is loaded in this condition, the reel base will lock, damaging the tape and the mechanism.
Note) When putting the system into REC mode, push the pin (shown by the * mark) of the recognition switch (2) (this is not necessary in other modes).
(6) If the system is put into TEST mode (T01) with the adjustment remote control without inserting a tape, it becomes possible to operate the mechanism with the MODE key.
(7) When ejecting, remove the thick paper inserted in step (4).
Note) Absolutely do not press the EJECT lever of the VCR frame. Doing so can damage the lever and the cams.
There will be a rattling sound during the ejection, but this is not abnormal.

(Make from paper about 0.5mm thick.)

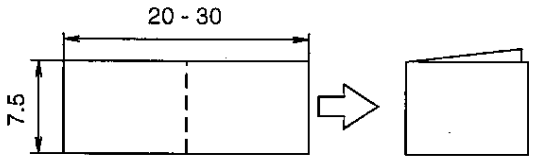


Fig. 4.

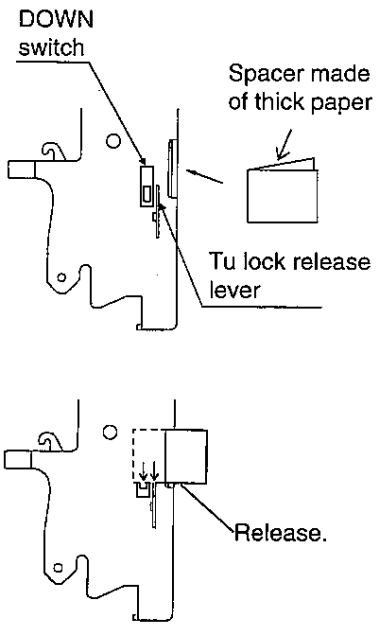


Fig. 5.

8-4. Phase matching

For the parts listed below, match the phases as shown in Fig. 6.

(1) MODE switch
(2) Main cam
(3) Cam coupling gear
(4) Pinch cam

Note) Before disassembling, check the marker positions carefully.

Note) After phase matching, turn the MODE switch by hand and confirm that it turns almost one complete turn. (After checking, return it to its original position.)

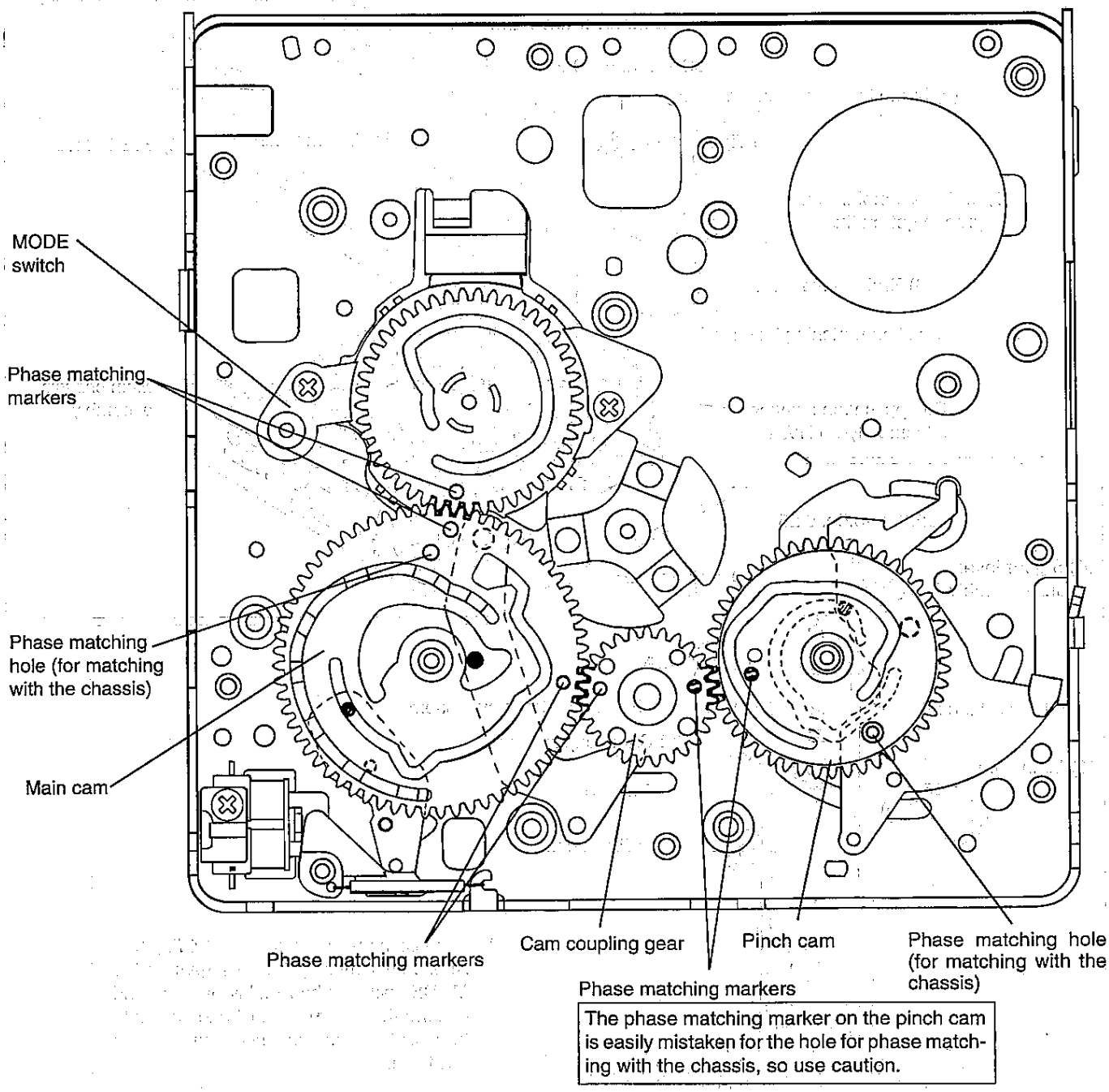
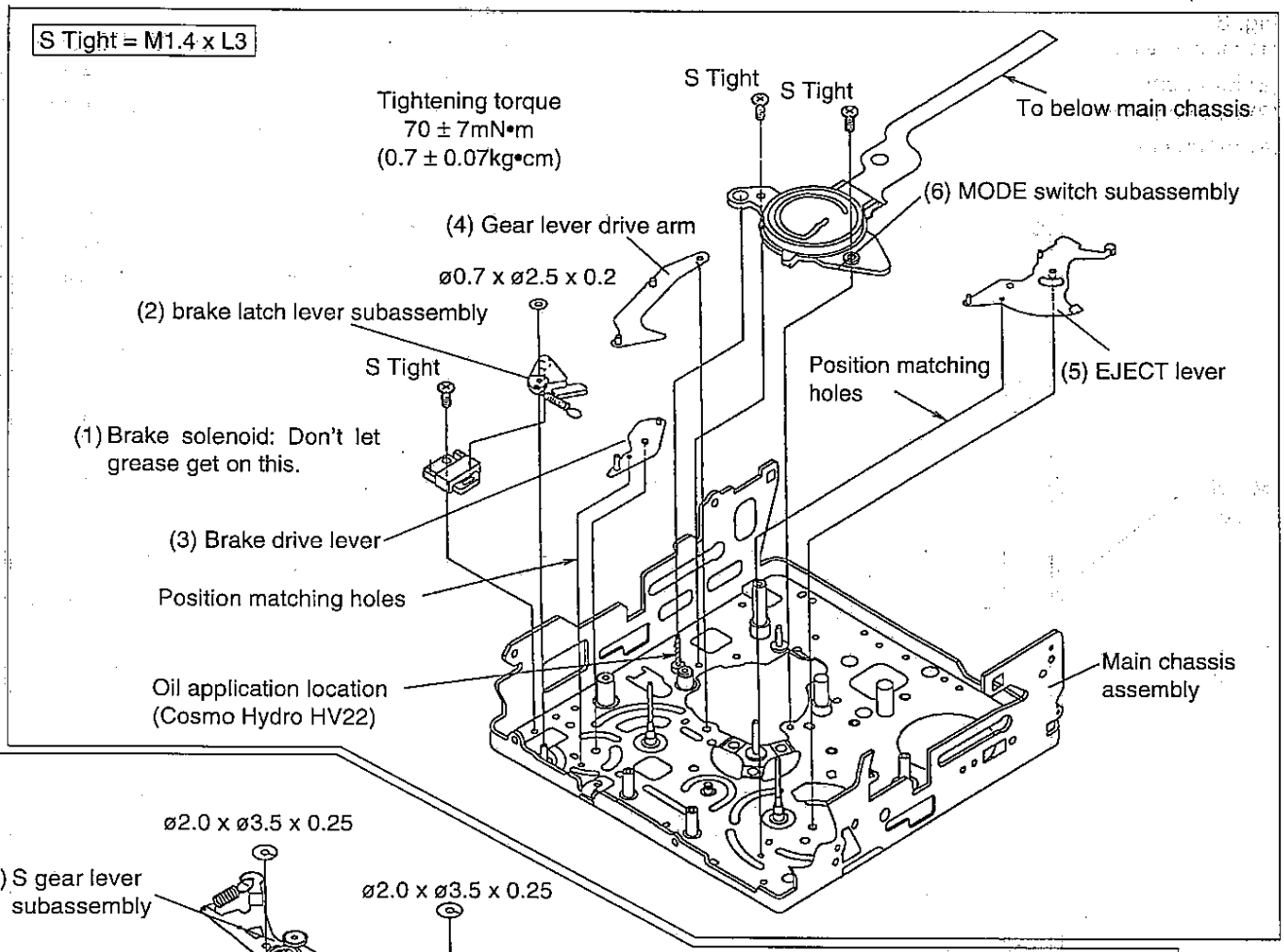
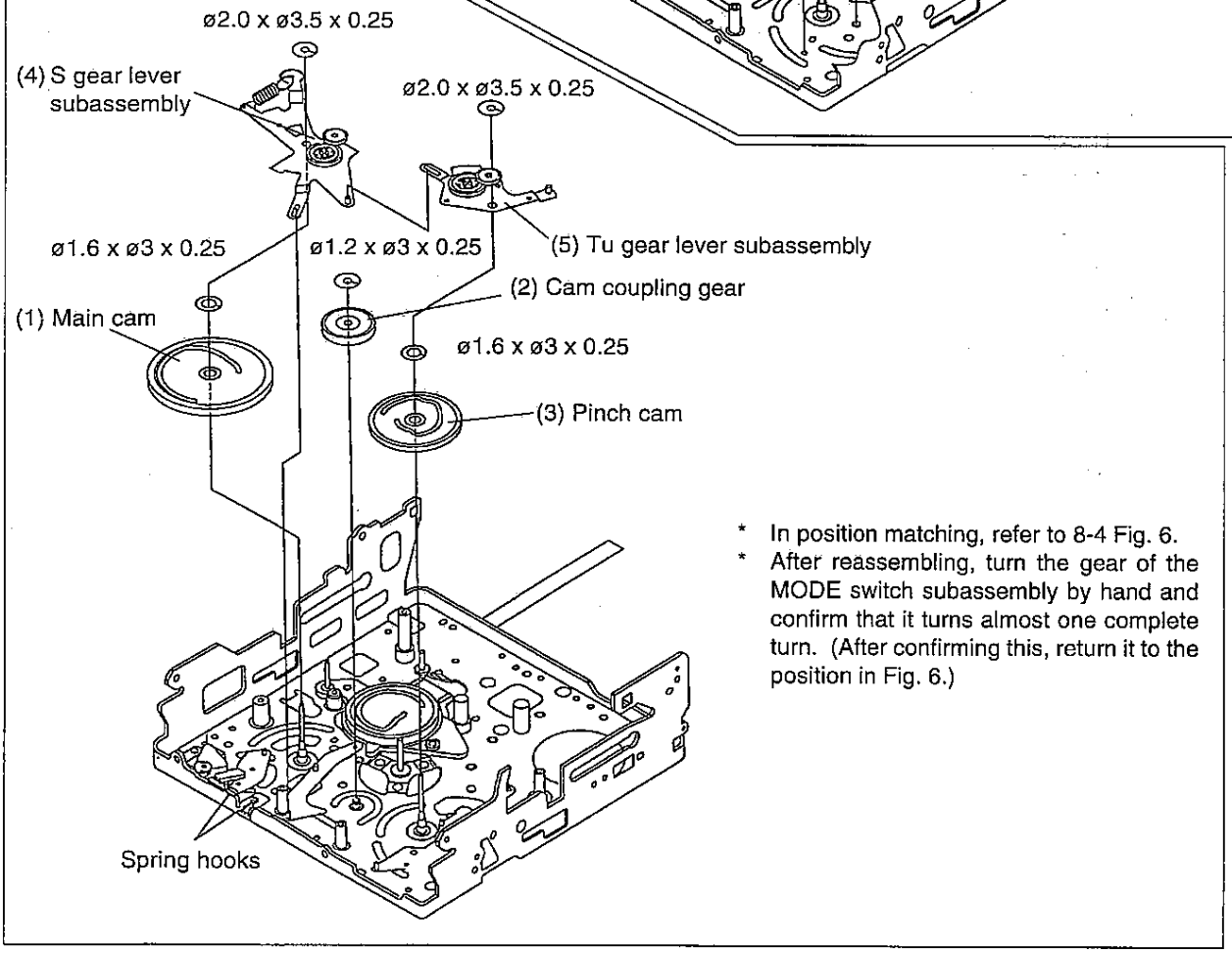

MODE switch
Phase matching markers
Phase matching hole (for matching with the chassis)
Main cam
Phase matching markers
Cam coupling gear
Pinch cam
Phase matching hole (for matching with the chassis)
Phase matching markers
The phase matching marker on the pinch cam is easily mistaken for the hole for phase matching with the chassis, so use caution.

Fig. 6.

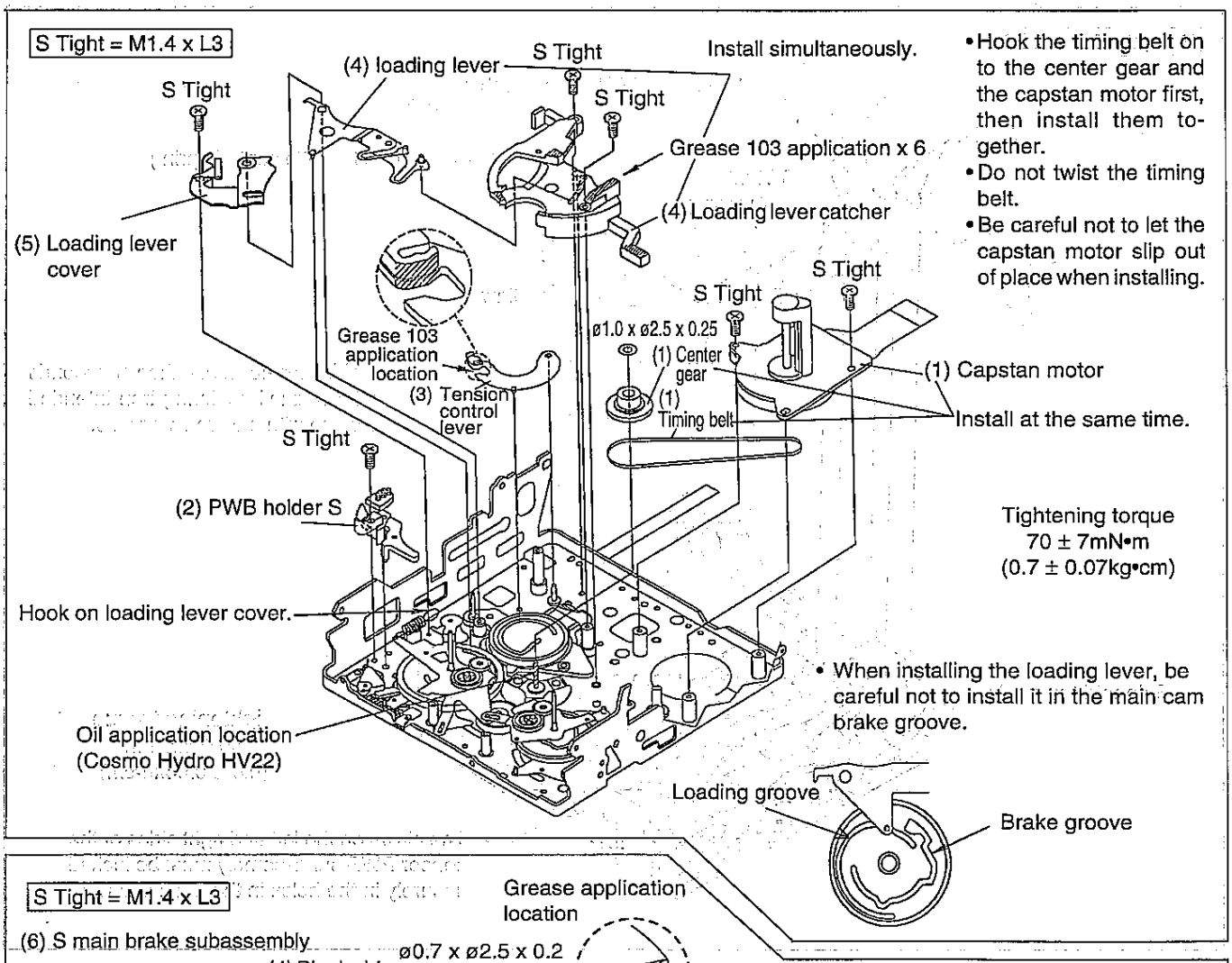
8-5. Reassembly

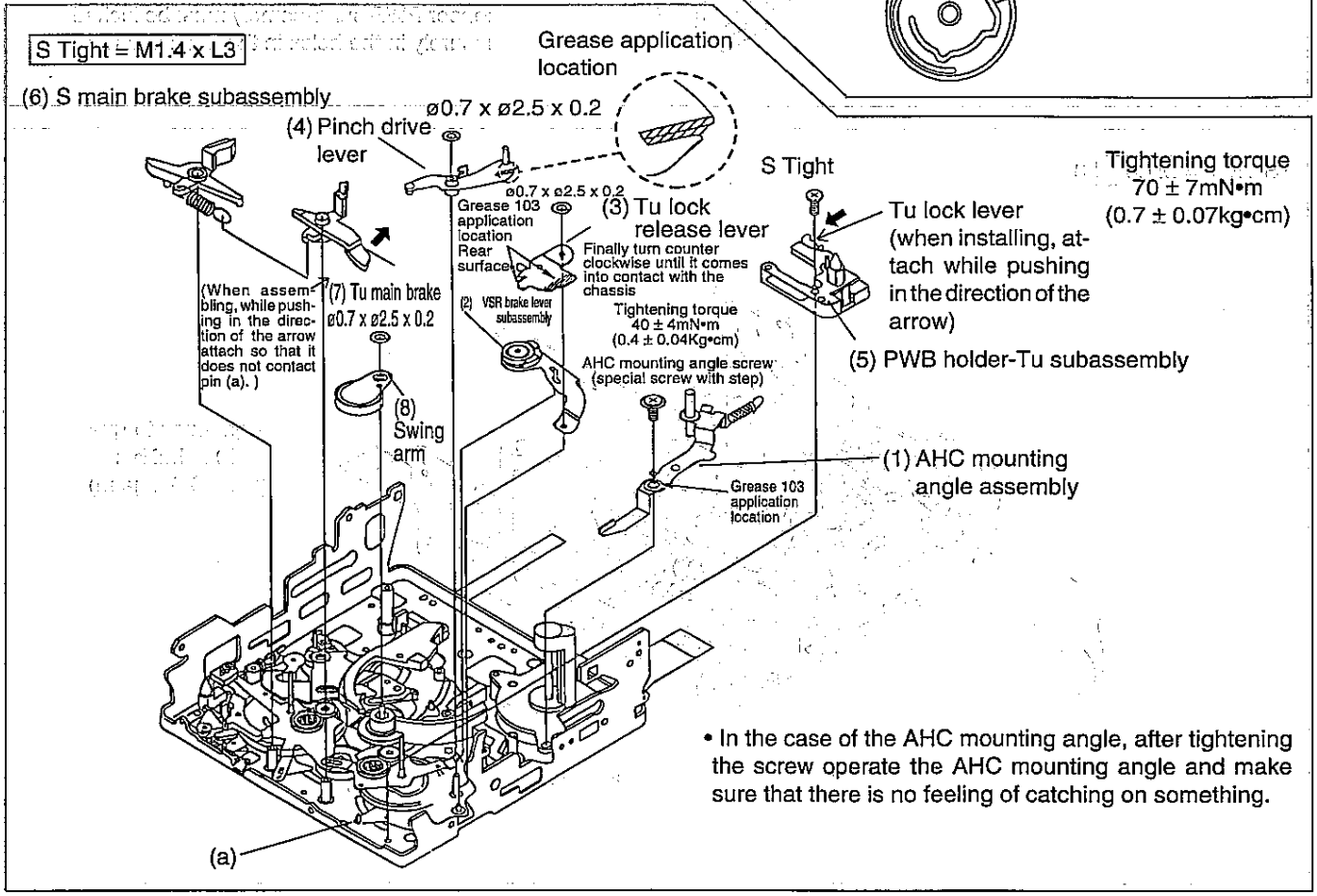
Note) Numbers before part names are given as a guide to the order of assembly.



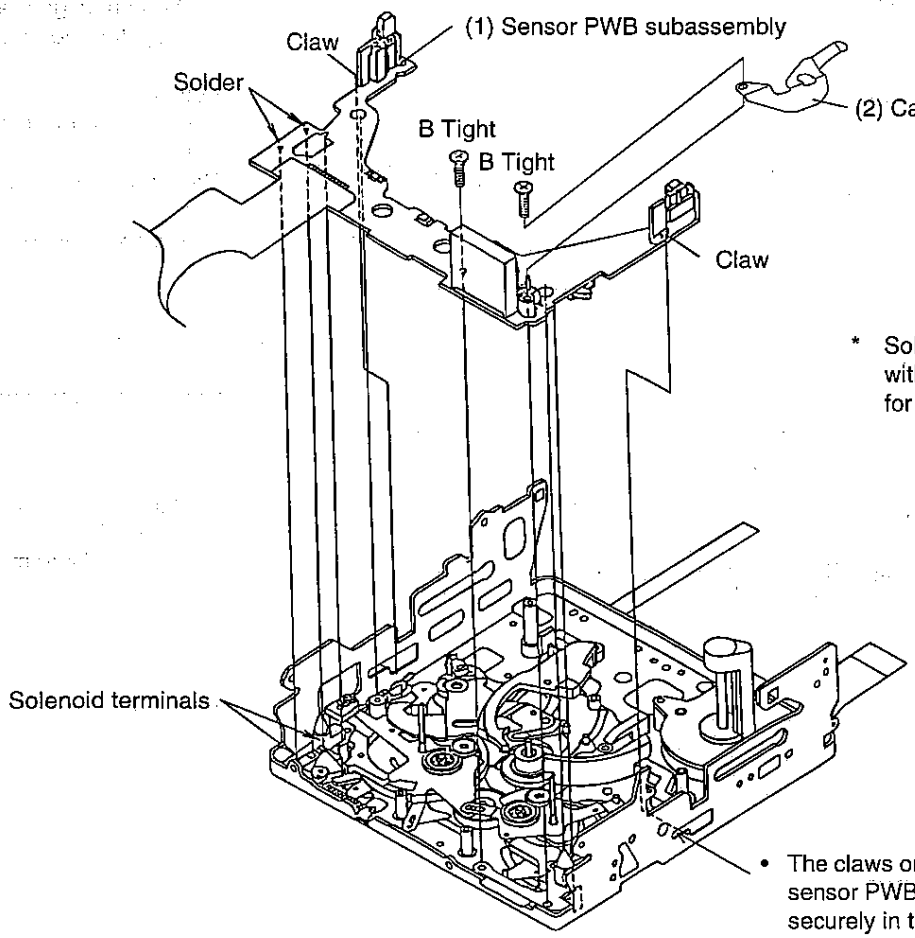

ø2.0 x ø3.5 x 0.25
(4) S gear lever subassembly
ø2.0 x ø3.5 x 0.25
ø1.6 x ø3 x 0.25
ø1.2 x ø3 x 0.25
(5) Tu gear lever subassembly
(2) Cam coupling gear
(1) Main cam
ø1.6 x ø3 x 0.25
(3) Pinch cam
Spring hooks

* In position matching, refer to 8-4 Fig. 6.
* After reassembling, turn the gear of the MODE switch subassembly by hand and confirm that it turns almost one complete turn. (After confirming this, return it to the position in Fig. 6.)


S Tight = M1.4 x L3
(4) loading lever
S Tight
Install simultaneously.
S Tight
S Tight
Grease 103 application x 6
(4) Loading lever catcher
(5) Loading lever cover
S Tight
S Tight
ø1.0 x ø2.5 x 0.25
(1) Center gear
(1) Timing belt
(1) Capstan motor
Install at the same time.
Grease 103 application location
(3) Tension control lever
S Tight
(2) PWB holder S
Hook on loading lever cover.
Oil application location
(Cosmo Hydro HV22)
• Hook the timing belt on to the center gear and the capstan motor first, then install them together.
• Do not twist the timing belt.
• Be careful not to let the capstan motor slip out of place when installing.
Tightening torque
70 ± 7mN•m
(0.7 ± 0.07kg•cm)
• When installing the loading lever, be careful not to install it in the main cam brake groove.
Loading groove
Brake groove


S Tight = M1.4 x L3
Grease application location
(6) S main brake subassembly
ø0.7 x ø2.5 x 0.2
(4) Pinch drive lever
S Tight
ø0.7 x ø2.5 x 0.2
Grease 103 application location Rear surface
(3) Tu lock release lever
Finally turn counter clockwise until it comes into contact with the chassis
Tu lock lever (when installing, attach while pushing in the direction of the arrow)
(When assembling, while pushing in the direction of the arrow attach so that it does not contact pin (a).)
(7) Tu main brake ø0.7 x ø2.5 x 0.2
(2) VSR brake lever subassembly
Tightening torque 40 ± 4mN•m (0.4 ± 0.04Kg•cm)
AHC mounting angle screw (special screw with step)
(5) PWB holder-Tu subassembly
(8) Swing arm
(1) AHC mounting angle assembly
Grease 103 application location
(a)
Tightening torque
70 ± 7mN•m
(0.7 ± 0.07kg•cm)
• In the case of the AHC mounting angle, after tightening the screw operate the AHC mounting angle and make sure that there is no feeling of catching on something.

B Tight = M1.4 x L6

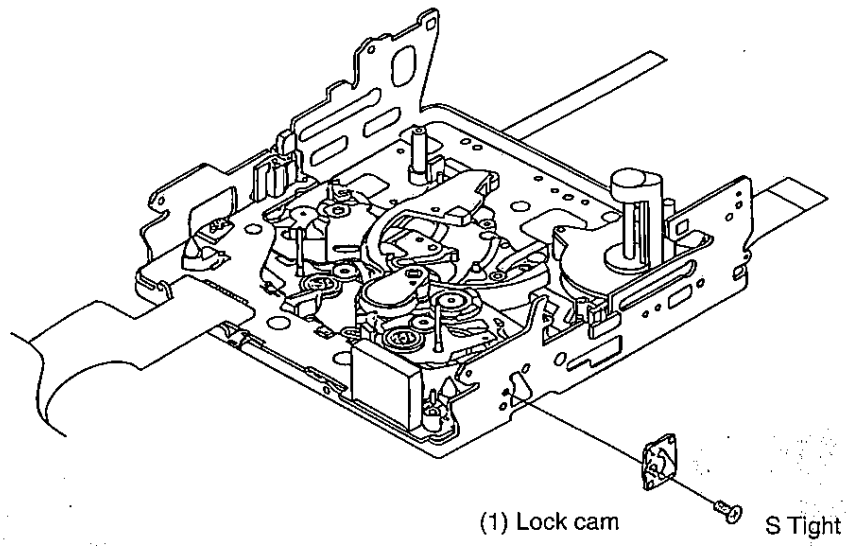


* Solder for not more than 3 seconds with a small soldering iron intended for use with electronic circuits.

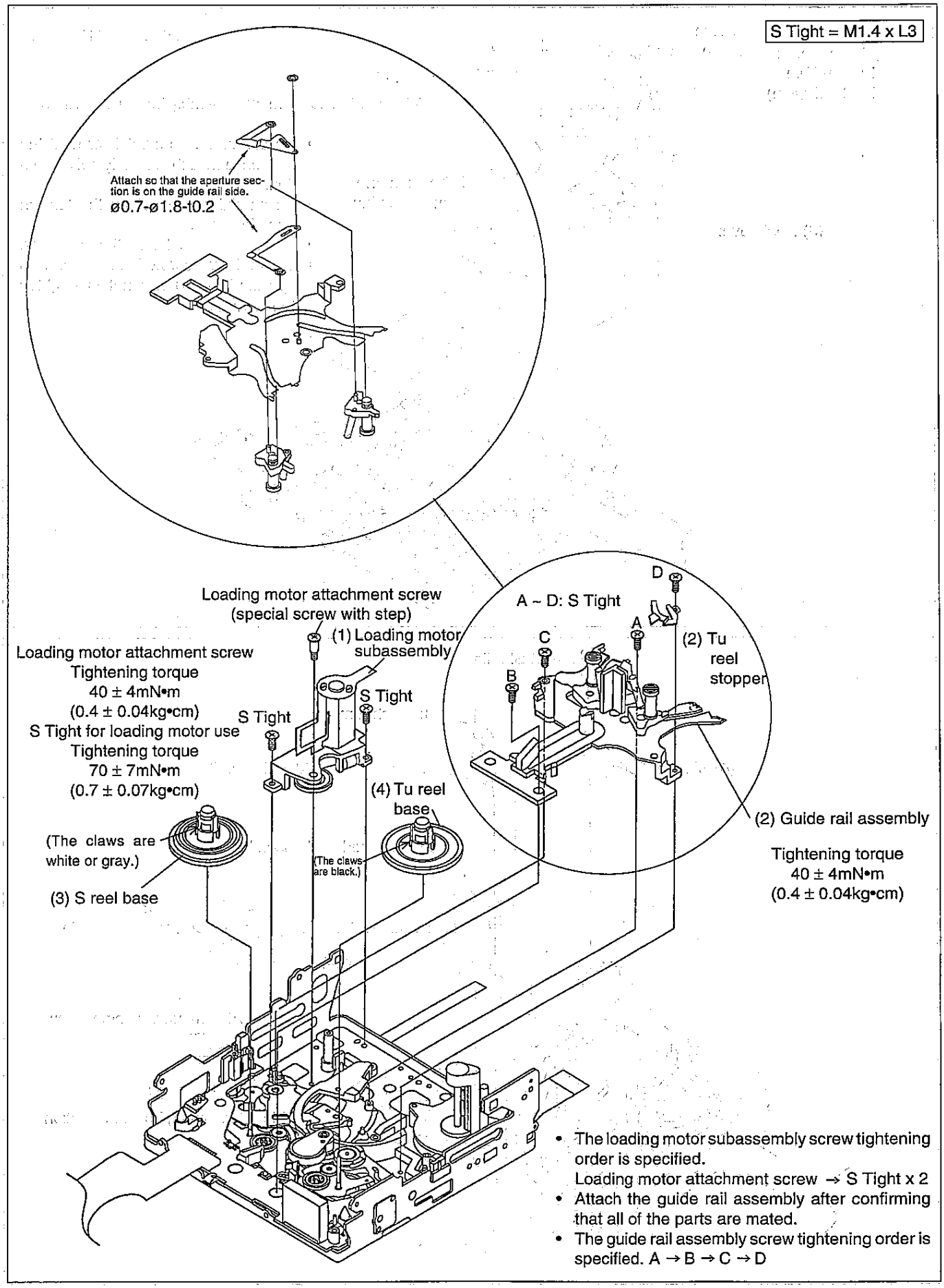
Tightening torque
40 ± 4mN•m
(0.4 ± 0.04kg•cm)

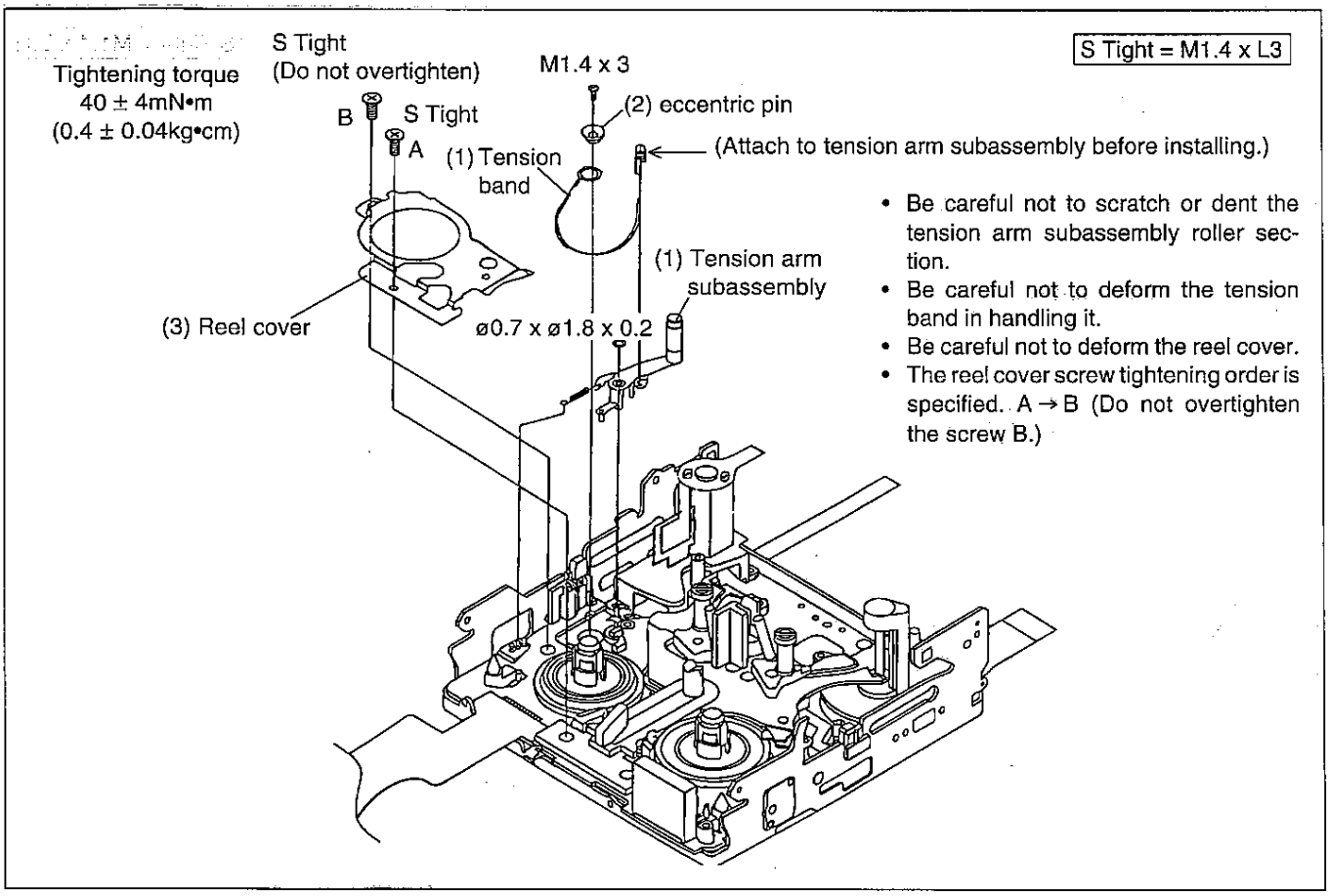
• The claws on the left and right sides of the sensor PWB subassembly must be locked securely in the holes in the main chassis.

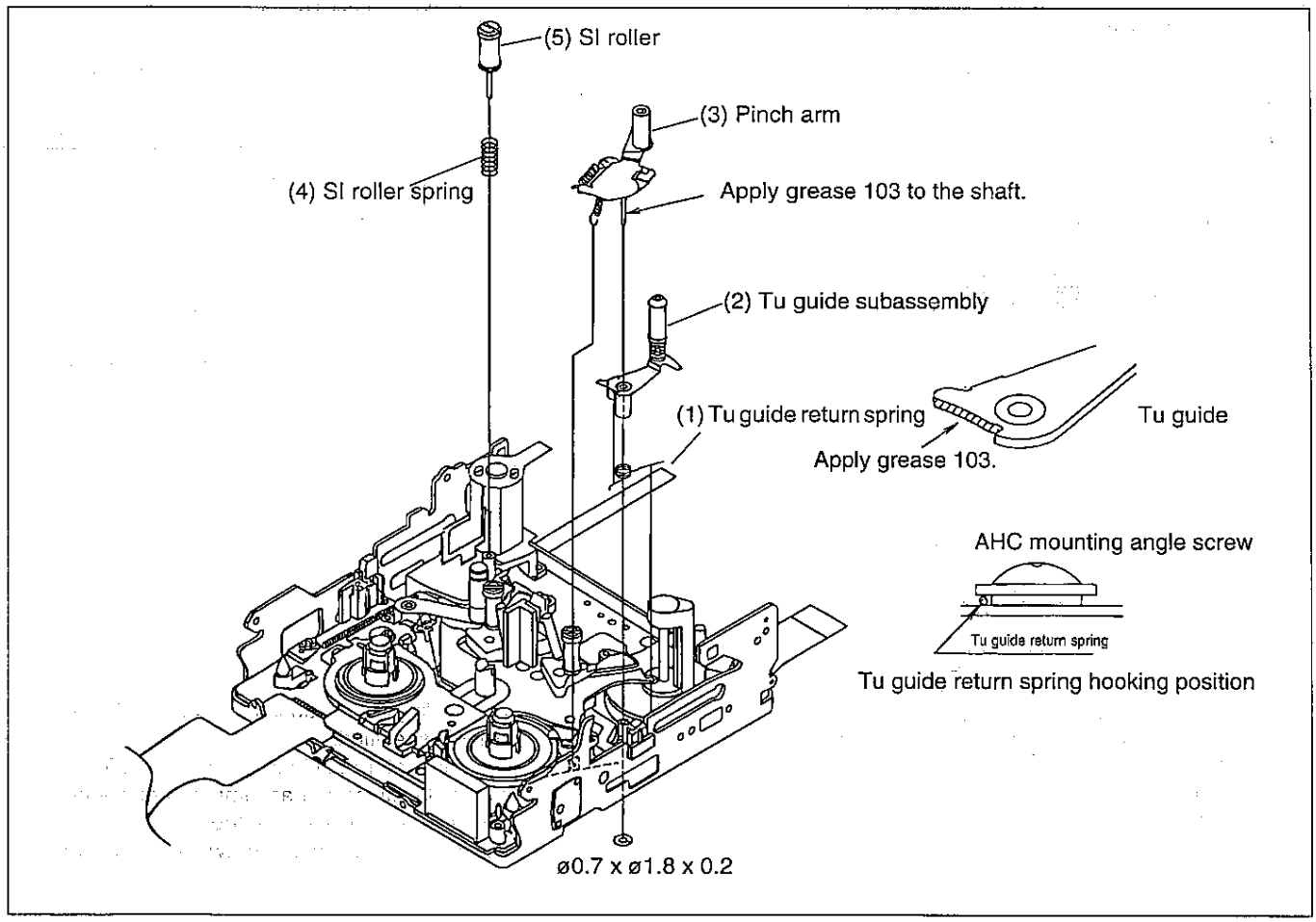
S Tight = M1.4 x L3

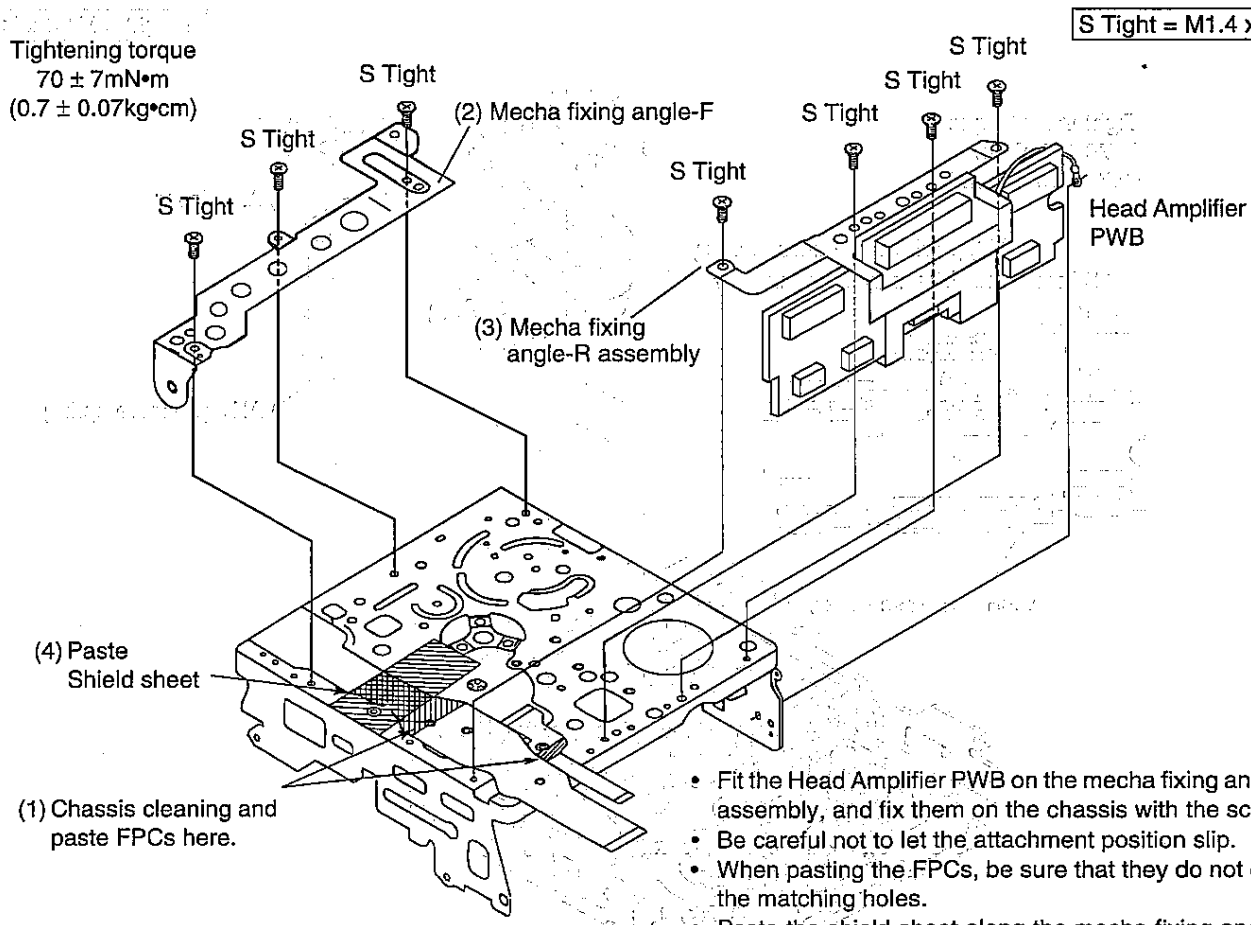


Tightening torque
40 ± 4mN•m
(0.4 ± 0.04kg•cm)


S Tight = M1.4 x L3
Attach so that the aperture section is on the guide rail side.
ø0.7-ø1.8-t0.2
Loading motor attachment screw
(special screw with step)
(1) Loading motor subassembly
Loading motor attachment screw
Tightening torque
40 ± 4mN•m
(0.4 ± 0.04kg•cm)
S Tight for loading motor use
Tightening torque
70 ± 7mN•m
(0.7 ± 0.07kg•cm)
S Tight
S Tight
A ~ D: S Tight
D
A
C
B
(2) Tu reel stopper
(4) Tu reel base
(The claws are white or gray.)
(The claws are black.)
(3) S reel base
(2) Guide rail assembly
Tightening torque
40 ± 4mN•m
(0.4 ± 0.04kg•cm)
• The loading motor subassembly screw tightening order is specified.
Loading motor attachment screw → S Tight x 2
• Attach the guide rail assembly after confirming that all of the parts are mated.
• The guide rail assembly screw tightening order is specified. A → B → C → D

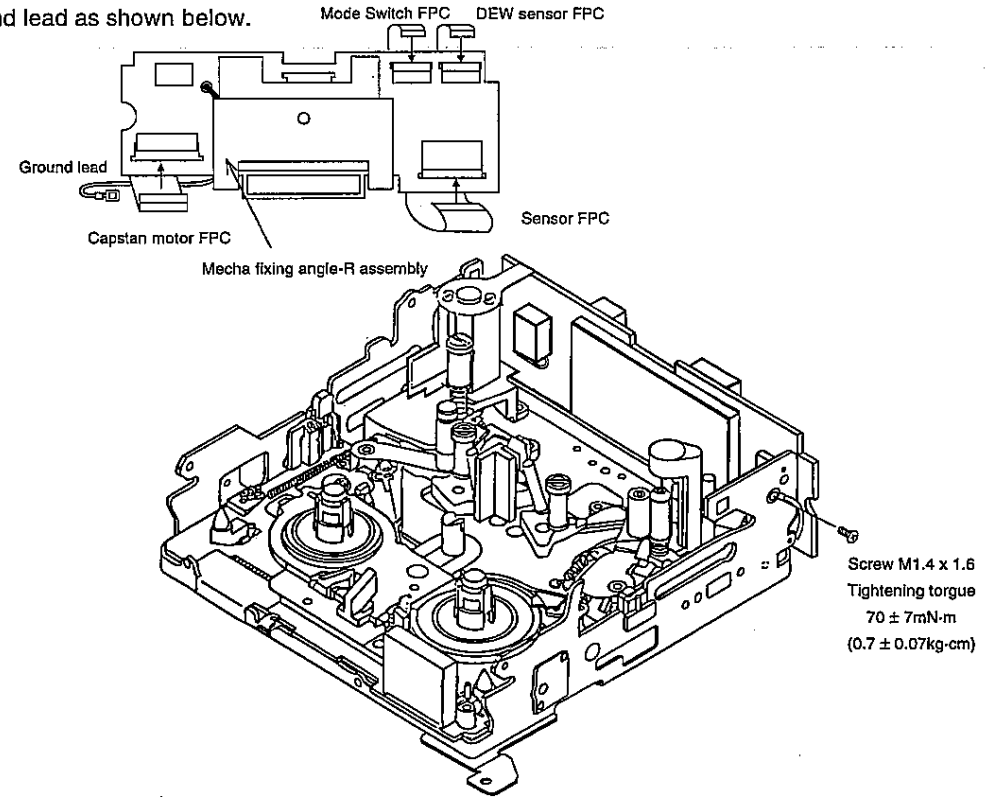

Tightening torque
40 ± 4mN•m
(0.4 ± 0.04kg•cm)
S Tight
(Do not overtighten)
M1.4 x 3
S Tight = M1.4 x L3
B
S Tight
A
(1) Tension band
(2) eccentric pin
(Attach to tension arm subassembly before installing.)
(1) Tension arm subassembly
(3) Reel cover
ø0.7 x ø1.8 x 0.2
• Be careful not to scratch or dent the tension arm subassembly roller section.
• Be careful not to deform the tension band in handling it.
• Be careful not to deform the reel cover.
• The reel cover screw tightening order is specified. A → B (Do not overtighten the screw B.)

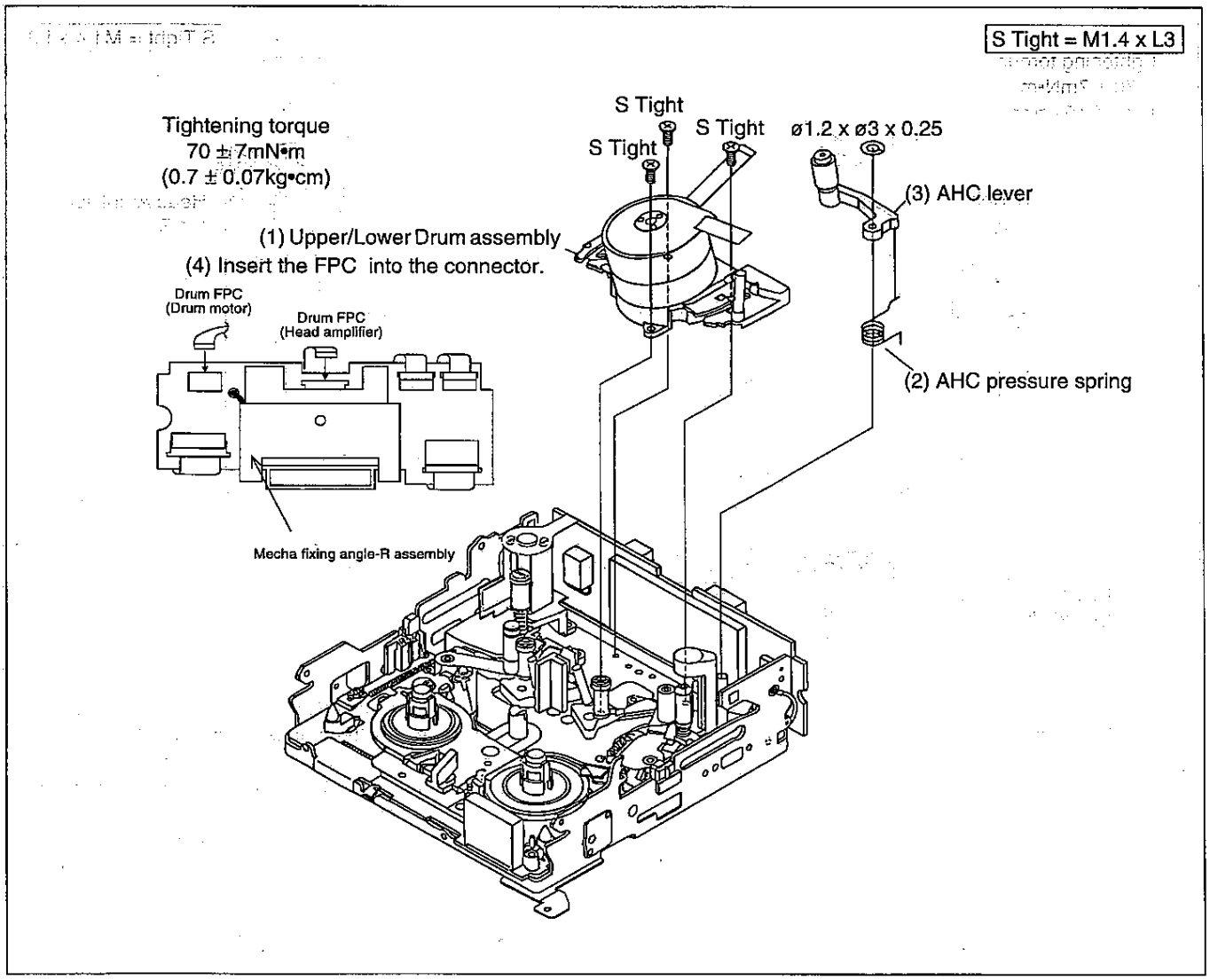

(5) SI roller
(3) Pinch arm
(4) SI roller spring
Apply grease 103 to the shaft.
(2) Tu guide subassembly
(1) Tu guide return spring
Tu guide
Apply grease 103.
AHC mounting angle screw
Tu guide return spring
Tu guide return spring hooking position
ø0.7 x ø1.8 x 0.2



- Fit the Head Amplifier PWB on the mecha fixing angle-R assembly, and fix them on the chassis with the screws.
- Be careful not to let the attachment position slip.
- When pasting the FPCs, be sure that they do not cover the matching holes.
- Paste the shield sheet along the mecha fixing angle-F. (Do not touch the pawl of the mode switch rotating part.)

(1) Insert the FPC into the connector.
(2) Lay the ground lead as shown below.




S Tight = M1.4 x L3
Tightening torque
70 ± 7mN•m
(0.7 ± 0.07kg•cm)
S Tight
S Tight
S Tight
ø1.2 x ø3 x 0.25
(3) AHC lever
(1) Upper/Lower Drum assembly
(4) Insert the FPC into the connector.
Drum FPC
(Drum motor)
Drum FPC
(Head amplifier)
(2) AHC pressure spring
Mecha fixing angle-R assembly

9. ADJUSTING THE ELECTRICAL CIRCUITS

— Precautions for making adjustments —

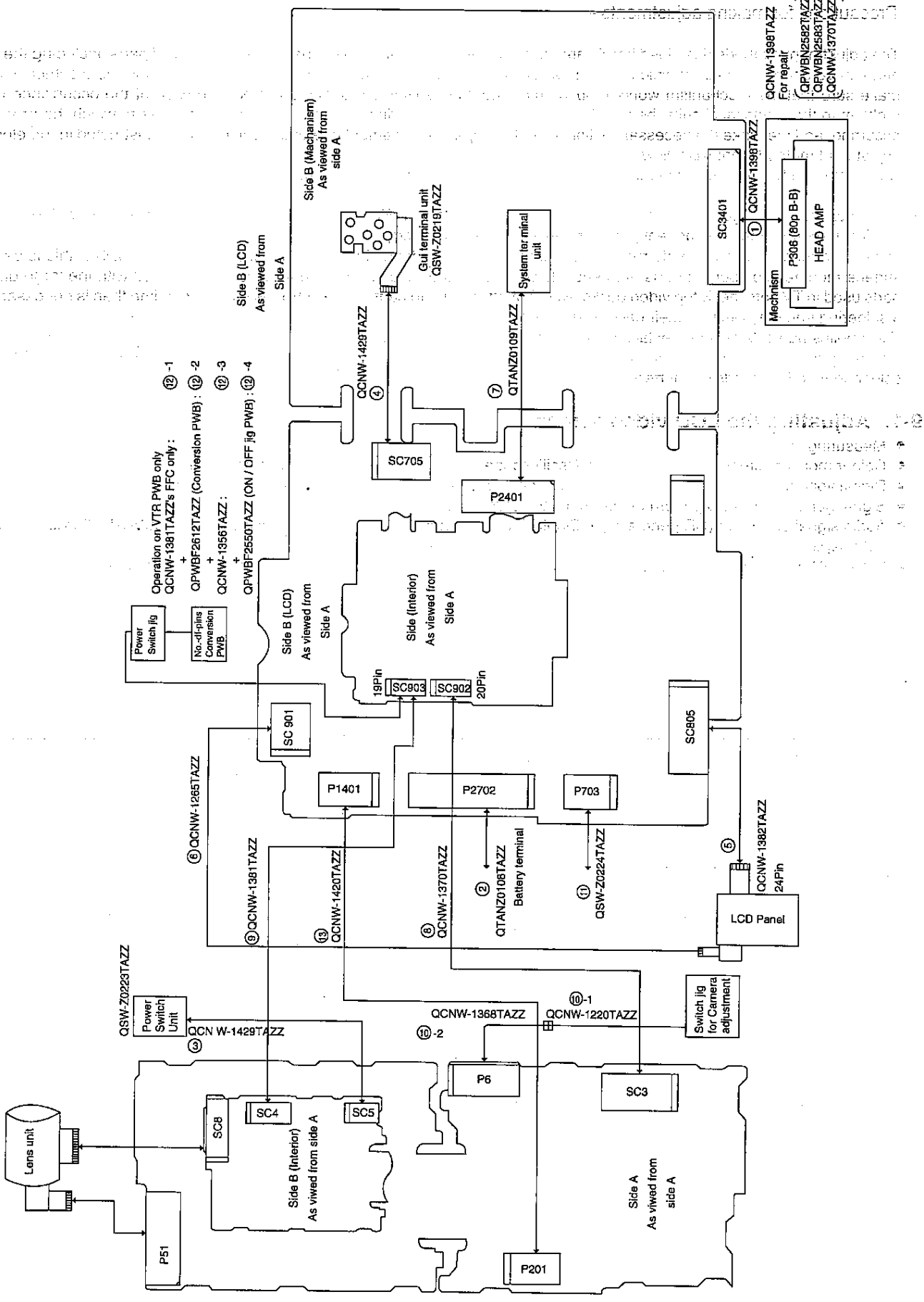
- The adjustment methods described herein are used, in most cases, when the expendable mechanical parts, including the video head, have been replaced, at which time the electrical circuits need to be readjusted. Before adjusting the electrical circuits, make sure that the mechanism works properly (i.e., the mechanism is properly adjusted). In case of the occurrence of any problem to the electrical circuits, be sure to use the specified measuring instruments to locate the area to which the problem is occurring, and then take the necessary action, including repair, replacement or adjustment, exactly as instructed in the electrical adjustment methods that will follow.
  Do not attempt to make adjustments without using the proper measuring instruments.

- This machine is configured so that the electrical circuits inside its PWB unit are composed, for the most part, of high-density, small surface-mounted component parts for downsized machine body.
  To perform repair service or parts replacement, do so using a soldering iron, but in as short a time as possible; this is because surface-mounted component parts are generally so small in size and susceptible to heat, as compared with the large discrete parts used in TV sets, desk-top video decks, etc., that attempting to heat their electrodes for a longer time than is necessary with a soldering iron may result in their becoming defective.
  This applies particularly when replacing the laminated chip capacitors.
  For this purpose, ceramic soldering irons with a temperature regulator are recommended (iron tip temperature 250°C and soldering time 5 seconds or shorter).

9-1. Adjusting the LCD video screen

- Measuring jigs
- Colour monitor screen
- Oscilloscope
- Vector scope
- Digital voltmeter
- Frequency counter
- DC power supply
- Signal generator (NTSC pattern generator LCG-401/401YC, made by Leader)
- Audio signal generator (CR generator)
- Blank video cassette
- Alignment tape 90ADVC-TAPEPAL (colour bars)
- AC adaptor
- DC cable (supplied with AC adaptor)
- Stereo AV output cable (supplied)
- Extension cable for video section
- Adjustment remote control

Service jig configuration

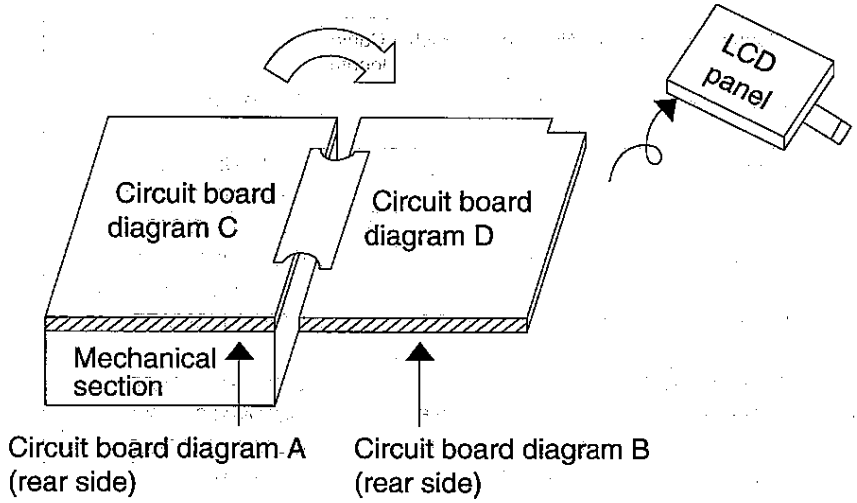


Specifications of service jigs

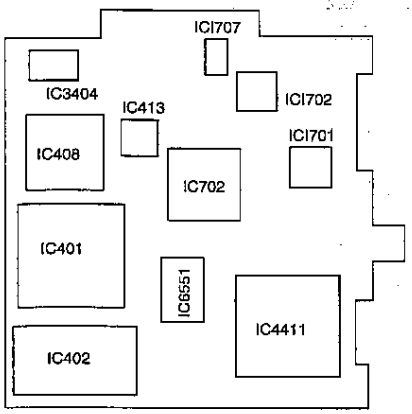
NO.	Connected to or between:	Connector REF. NO.	No. of pins	Pitch	Cable length	Part code
1)	H/A ↔ VCR	P306 ↔ SC3401	80B-B	0.5		QCNW-1398TAZZ
(1)	H/A	P306	↓	↓		QPWBN2582TAZZ
(2)	VCR	SC3401	↓	↓		QPWBN2583TAZZ
(3)	FFC		20	↓	200	QCNW-1370TAZZ
2)	Battery terminal	P2702 ←	14			QTANZ0108TAZZ Used with product units
3)	Power switch	SC5 ↔ power switch unit	8	0.8		QCNW-1429TAZZ
4)	GUI OPE.	SC705 ↔ UNIT	8	↓		QCNW-1429TAZZ
5)	VCR ↔ LCD panel	SC805 ↔ LCD	24	0.5		QCNW-1382TAZZ
6)	VCR ↔ INV	SC8901 ↔ INV	7	↓		QCNW-1265TAZZ
7)	VCR ↔ system terminal	P2401 ↔ system terminal	60B-B	↓		QTANZ0109TAZZ Used with product units
8)	CAM1 FFC	SC902 ↔ SC3	20	↓		QCNW-1370TAZZ
9)	CAM2 FFC	SC903 ↔ SC4	19	↓		QCNW-1381TAZZ
10-1)	CAM ADJ	P6 ←	26	0.8		QCNW-1220TAZZ
-2)						QCNW-1368TAZZ
11)	EJECT SW	P703 ←	3			QSW-Z0224TAZZ Used with product units
12-1)	Power switch (when operating VCR PWB independently)	SC903 ↔ No.-of-pins conversion	19	0.5		QCNW-1381TAZZ
-2)		Conversion from 18 to 19 pins				QPWBF2612TAZZ
-3)		No.-of-pins conversion ↔ power switch jig	18	0.5		QCNW-1356TAZZ
-4)						QPWBF2550TAZZ
13)	CAM ↔ VCR	P201 ↔ P1401	4	1.25		QCNW-1420TAZZ
14)	Adjustment remote control					RRMCG0033TASA

* Jig No. 12 is used only in the case where the VCR PWB is operated independently for reasons such as because there is no camera or because no camera is required.

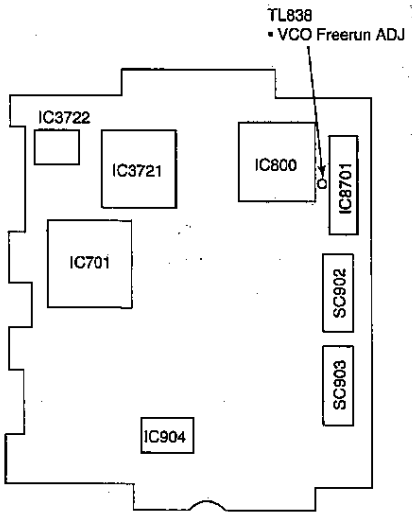
[CIRCUIT BOARD DIAGRAM CONFIGURATION]


LCD panel
Circuit board diagram C
Circuit board diagram D
Mechanical section
Circuit board diagram A (rear side)
Circuit board diagram B (rear side)

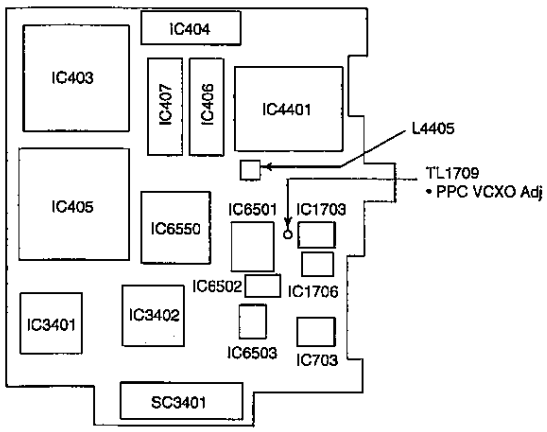
(CIRCUIT BOARD DIAGRAM C)



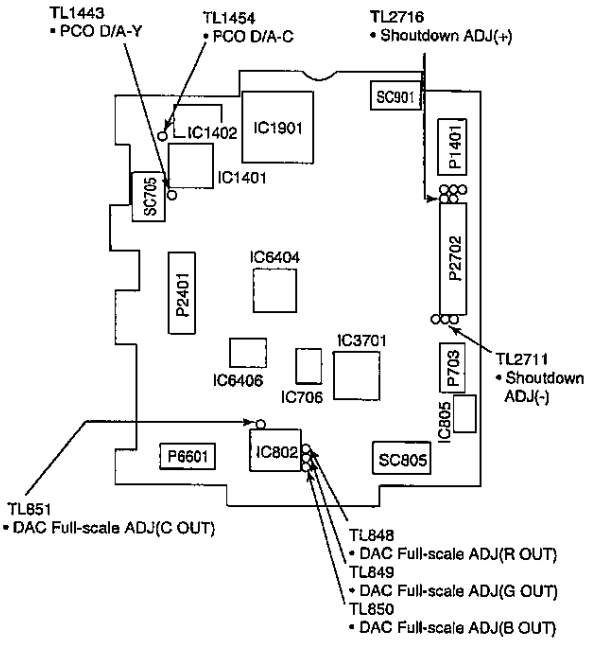
(CIRCUIT BOARD DIAGRAM D)



(CIRCUIT BOARD DIAGRAM A)



(CIRCUIT BOARD DIAGRAM B)



[Making adjustments]

Adjusting the servo system controller and related parts

1. Setting the system codes

Replacement of IC706E²PROM requires the following data to be set in this order.

[Procedure]

Set the unit to the VCR mode and set the data for each address.

	Address	Data
1) Model code	01	01
	09	FE
2) Destination code	02	0B (VL-DC1E), 0A (Vl-DC1H/S)
	0A	F4 (VL-DC1E), F5 (VL-DC1H/S)
3) Specifications code	03	08
	0B	F7
4) Menu selection code	04	00
	0C	FF
5) Software switching code	05	00
	0D	FF
6) Calendar switching code	07	96
	0F	69
7) 1/4 track	1F	FF

When replacing the E²PROM, first make the followig settings and then start the adjustments.

Backlight

Address	Data
10	F8
11	CC
12	89
13	44
14	BC
16	48
17	66
18	87
1B	01
1C	00

Power

Address	Data
3B	82
3C	80

LCD

Address	Data
43	2C
4B	E2
4C	E7
4D	F6
4E	99
4F	2A
51	C6
52	2C
53	AC
54	CE
55	CE
56	F2
58	5C
59	11
5A	11
5B	F9
5C	01
5D	40
5E	08
64	62
69	40
6A	40
6B	40
6C	40

Electromagnetic conversion

Address	Data
25	80
26	80
27	48
28	80
2B	DA

* Some adjustment step numbers are followed by when to perform the adjustment.

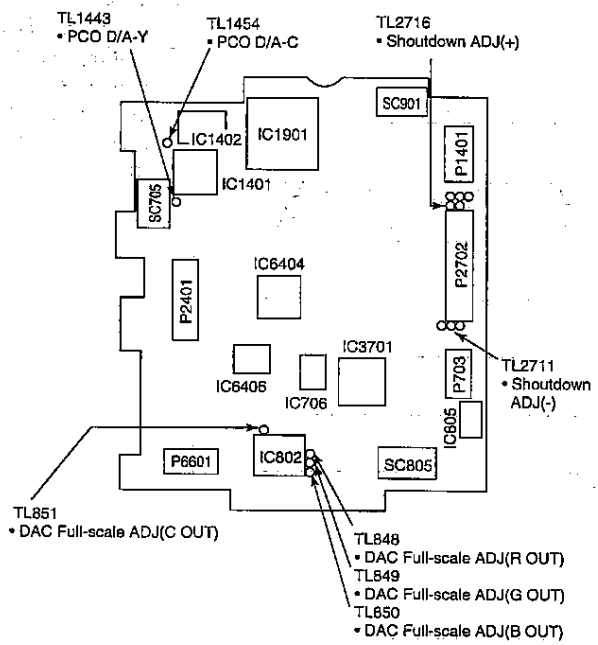
Examples

1) During E²PROM replacement
2) During circuit board (Main) replacement
3) During LCD replacement
4) During mechanism replacement

2. Shutdown voltage adjustment

1) During E²PROM replacement

(CIRCUIT BOARD DIAGRAM B)



[Procedure]

1) Load the blank cassette into the deck.
2) Set the unit to the camera mode, and start recording.
3) Press the "CONTINUE" and "TEST SEL" keys on the adjustment remote control in this order.
4) Select T03 with the "REW" and "FF" keys and press the "PLAY" key.
→ This shifts the operation mode to the shutdown voltage adjustment mode.
At this time, the display in which T03 is flashing changes to the normal REC screen.
5) Measure the voltage between TL2716 (+) and TL2711 (-) using the digital multi-meter, and supply external power until the power voltage is adjusted to +2.80 VAC.
6) Press the "backlight compensation (▶/▶▶|)" key. (The backlight compensation indicator changes from blue to yellow.)
→ This executes automatic adjustment.
At this time, with the "BATTERY" indication appearing only for an instant, the adjustment is complete.
7) Press the "CONTINUE" key on the adjustment remote control.

3. HSWP adjustment

1) During mechanism replacement
2) During E²PROM replacement (IC303 inside the head amplifier circuit board)

[Procedure]

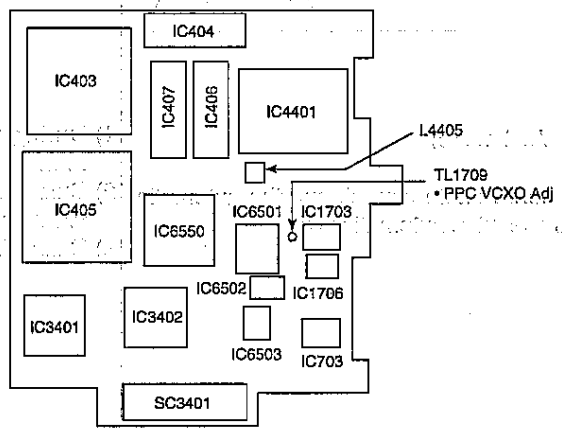
1) Play back the alignment tape in the video mode.
2) Press the "CONTINUE" and "HSWP ADJ" keys on the adjustment remote control in this order.
→ This executes the HSWP adjustment.
When the adjustment is successful, the blue LCD lights up and the cassette is automatically ejected. If not properly adjusted, the red LCD lights up and the tape stops automatically.

Adjusting The PPC Circuit

1. PPC VCXO adjustment

1) During Circuit board (Main) replacement
2) During IC4401 or L4405 replacement

(CIRCUIT BOARD DIAGRAM A)



[Procedure]

1) Connect the camera and VCR sections so that the camera's video signal can be fed.
2) Set the power switch to the camera mode.
3) Adjust L4405 so that the DC voltage at TL1709 be 3.2 ± 0.1V.

ADJUSTING THE ELECTROMAGNETIC CONVERSION CIRCUIT SYSTEM

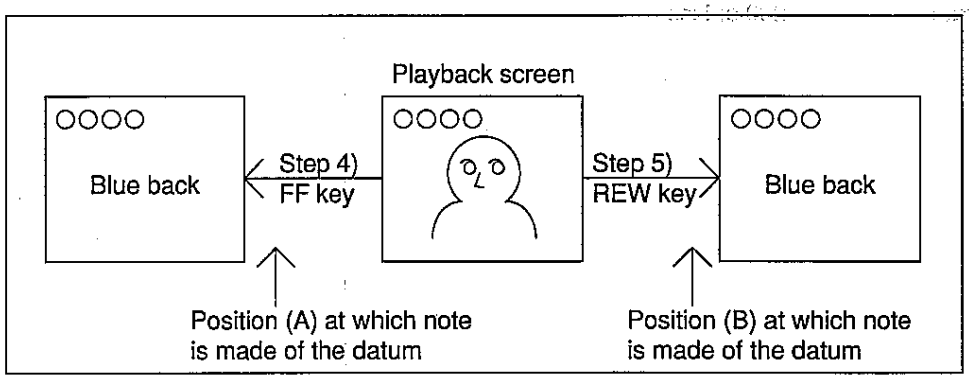
Note: During the adjustment of the electromagnetic conversion circuit system, keep R3602 out of operation.

1. PLL VCO adjustment

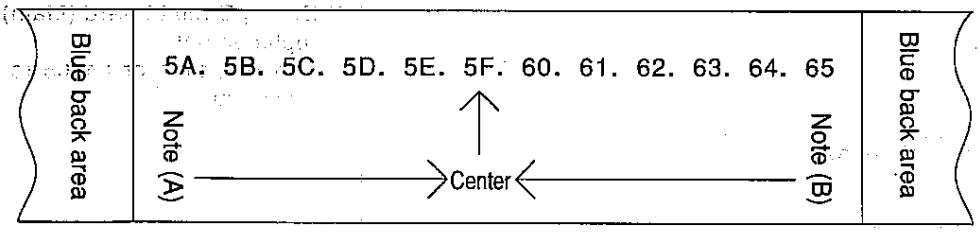
1) During Circuit board (Main) replacement
2) During E²PROM replacement

[Procedure]

1) Play back the alignment tape (or a self-recorded tape).
2) Call the adjustment mode (V-ADJ).
3) Set the address to "2C," and call the data.
4) Using the FF key, vary the data that has been called until the playback image screen changes to the blue back screen. Then use the REW key to vary the data backward until the data point is found where the screen starts to switch from the blue back to the playback image. At this time, take note of the data obtained at this point.
5) As in the above step (4), vary the data that has been called - this time using the REW key - until the playback image screen changes to the blue back screen. Then use the FF key to vary the data backward until the data point is found where the screen starts to switch from the blue back to the playback image. At this time, take note of the data obtained at the point.



6) Calculate the data taken note of at the points (A) and (B) to find the center of these data, and shift to and determine the central data by using the FF or REW key.
   Example:
   If the data taken note of at the points (A) and (B) are 5A and 65, respectively:



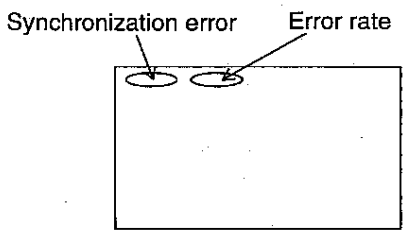
The central data is set to "5F."

Phase and equalizer adjustment → (Performed in the VCR mode)

1) Load a self-recorded tape into the deck.
2) Select and fix the TEST MODE 0F on the adjustment remote control, and the automatic adjustment will start (i.e., the following sequence is executed automatically).

VS REW
↓
PB
↓
Phase and equalizer are adjusted automatically.
↓
Judgment
↓
OK: Blue LCD comes on. → Tape is ejected.
NG: Red LCD comes on.

4) Error rate check
   Select and fix the TEST MODE 0C on the adjustment remote control.
5) Manual adjustment method (video adjustment mode)
   For phase, vary the data for the address 2B, and for equalizer, vary the data for the address 27, to set the error rate to the minimum.

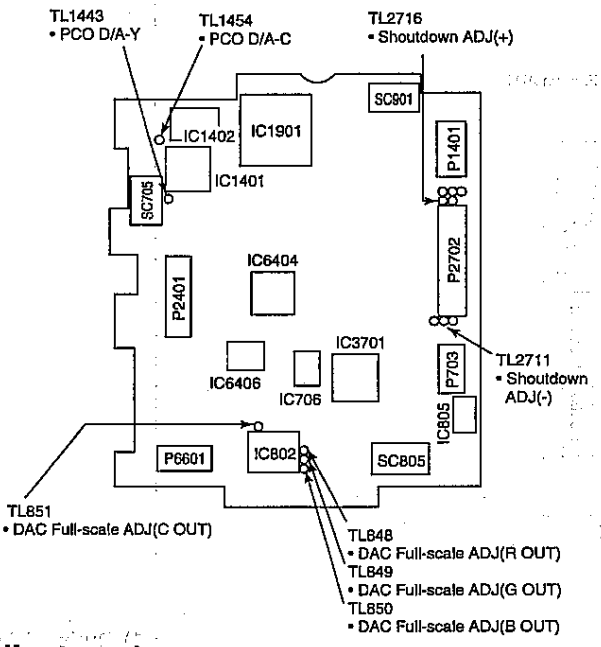


Synchronization error	20 or less
Error rate	200 or less

1) During mechanism replacement
2) During circuit board (Main) replacement
3) During E²PROM replacement

Adjusting the video I/O circuit system

(CIRCUIT BOARD DIAGRAM B)



1. I/O filter adjustment

1) During E²PROM replacement

[Mode]

EE mode for colour bar input (video power side)

[Procedure]

1) Call the adjustment mode (V-ADJ).
2) Set the address to "21" and call the data.
3) Set the data to "70."

2. PCO D/A-Y adjustment

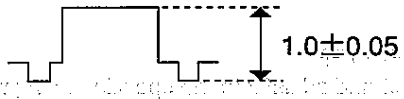
1) During E²PROM replacement

[Mode]

EE mode for any given video signal

[Test point]

TL1443 (connected to oscilloscope)



[Procedure]

1) Call the adjustment mode (V-ADJ).
2) Set the address to "22" and call the data.
   (100% white signal is output.)
3) Vary the data with the FF and REW keys to set the signal appearing at TL1443 to 1.0 Vp-p± 0.05.

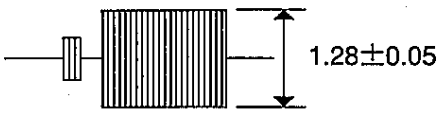
* Data should be set within the range range is from 00 to 60.

3. PCO D/A-C adjustment

1) During E²PROM replacement

[Mode]

No input



[Test point]

TL1454

[Procedure]

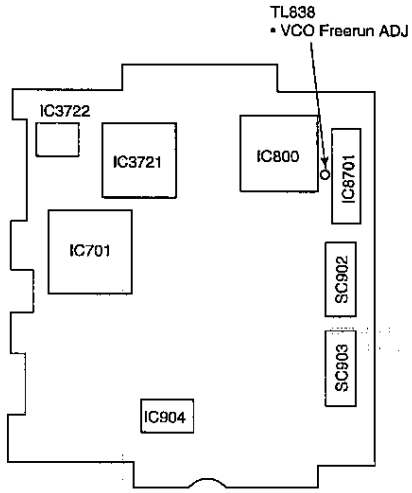
1) Call the adjustment mode (V-ADJ).
2) Set the address to "23" and call the data.
3) Vary the data with the FF and REW keys to set the signal appearing at TL1454 to 1.28 Vp-p ± 0.05.

* Data should be set within the range from 00 to 60.

Adjusting the LCD circuit

* To make this adjustment, set the backlight switch to the "NORMAL" position.

(CIRCUIT BOARD DIAGRAM D)



1. VCO free-run ADJ

[Mode]
VCR AV input or internal blue back picture

[Address]
VCR ADJ 32

[Measuring point]
TL838 (HSY)

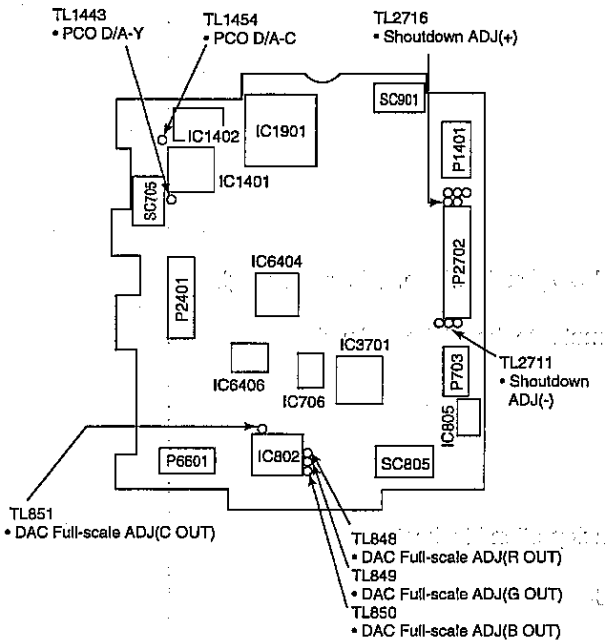
[Adjustment rating]
625 KHz ± 100Hz

[Procedure]
1) Change the VCR ADJ address 57 from F7 to FB.
2) Connect the Frequemcy counter to TL838 and adjust it to the specified rating with the VCR ADJ address 32.
3) Set the VCR ADJ address 57 to F7.

Note: Setting the address 57 to F8/F9 turns off the LCD screen, but keep changing the data. Otherwise the original screen will not come on again. In such case, the address and the data cannot be checked on the LCD screen.
To correct this, make sure the power switch is at the camera position, make connection between the AV pack's video output and the TV set, and check the data on the TV screen.

1) During IC706 (E^2PROM) replacement

(CIRCUIT BOARD DIAGRAM B)

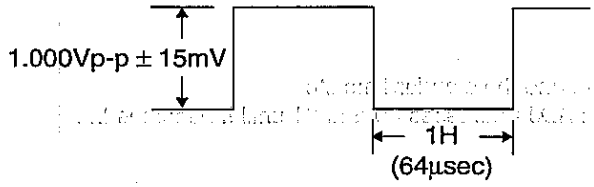


2. DAC full-scale ADJ

[Mode]
VCR AV input

[Addresses]
VCR ADJ 3E (R/G)
VCR ADJ 3D (B/C)

[Measuring points]
TL848 (R OUT)
TL849 (G OUT)
TL850 (B OUT)
TL851 (C OUT)



[Adjustment rating]
1.000 Vp-p ± 15 mV

[Procedure]
1) Change the VCR ADJ addresses 47, 49 and 64 to FE, 7F and 7F, respectively. (At this time, remember to take note of the data before changing them.)
2) With the VCR ADJ address 3E, set the TL848/849 output voltage to the adjustment rating, and with the synchronizer, set the peak voltage also to the adjustment rating, in such a way that the both TPs' voltages will be averaged into the rated mean value.
3) With the VCR ADJ address 3D, set the TL850/851 output voltage to the adjustment rating, and with the synchronizer, set the peak voltage also to the adjustment rating. (Same as in Step (2) above)
4) Set the changed address data back to normal.
Note: Setting each address data back to normal leaves the LCD screen white. At this time, turning off and on the main power will restore the screen (the lithium battery should be removed).

1) During IC706 (E²PROM) replacement
2) During IC800 replacement

3. COM-Bias ADJ

1) During IC706 (E^2PROM) replacement
2) During circuit board (Main) replacement
3) During LCD replacement
4) During IC800 replacement

[Mode]
VCR AV input

[Address]
VCR ADJ 33

[Measuring point]
LCD panel display area

[Adjustment rating]
Minimum

[Procedure]
1) Feed 40% white signal to the AV input jacks.
2) Set the illumination meter (TOPCON IM-3) onto the LCD panel surface. (No external light is allowed to enter.)
3) Set the output wave form ripple on the illumination meter to the minimum level.

Response time: 0.6 sec

Or feed the gray-scale pattern signal and make the black portion blackest.

[Remarks]
Make this adjustment after 5-minute or longer aging.

4. W/B ADJ

1) During IC706 (E^2PROM) replacement
2) During circuit board (Main) replacement
3) During LCD replacement
4) During IC800 replacement

[Mode]
VCR AV input

[Address]
VCR ADJ 30 (R)
VCR ADJ 31 (B)

[Measuring point]
LCD panel display area

[Adjustment rating]
Based on the standard monitor

[Procedure]
1) Feed 40% white signal to the AV input jacks and the standard monitor.
2) Adjust the tone of the colour with the VCR ADJ addresses 30 and 31 until it becomes the same as that of the standard monitor.

[Remarks]
Make this adjustment after 5-minute or longer aging.

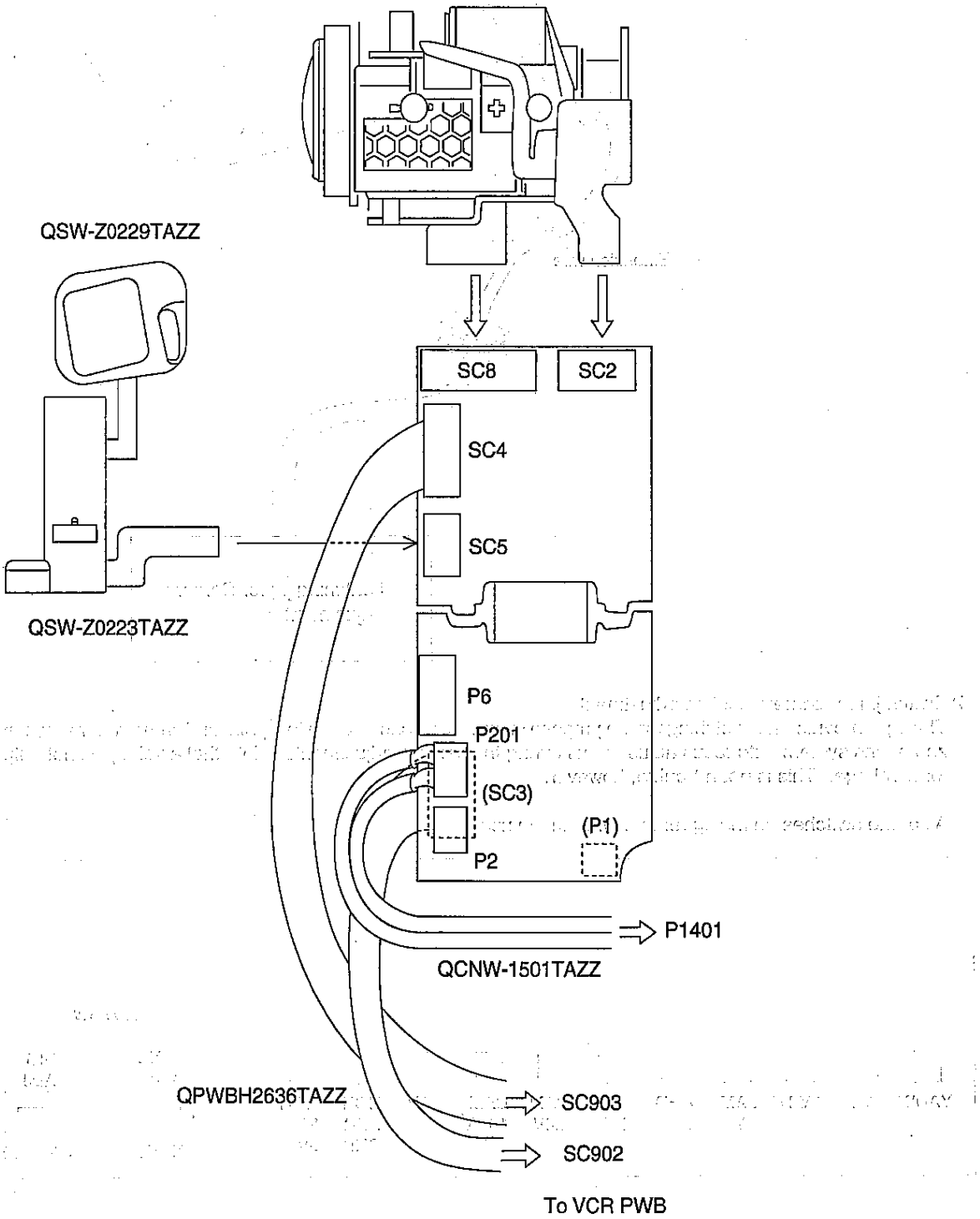
9-2. Camera Section Adjustments

9-2-1. Camera section service

(1) Subjects, measuring instruments and jigs needed for camera section service and adjustments

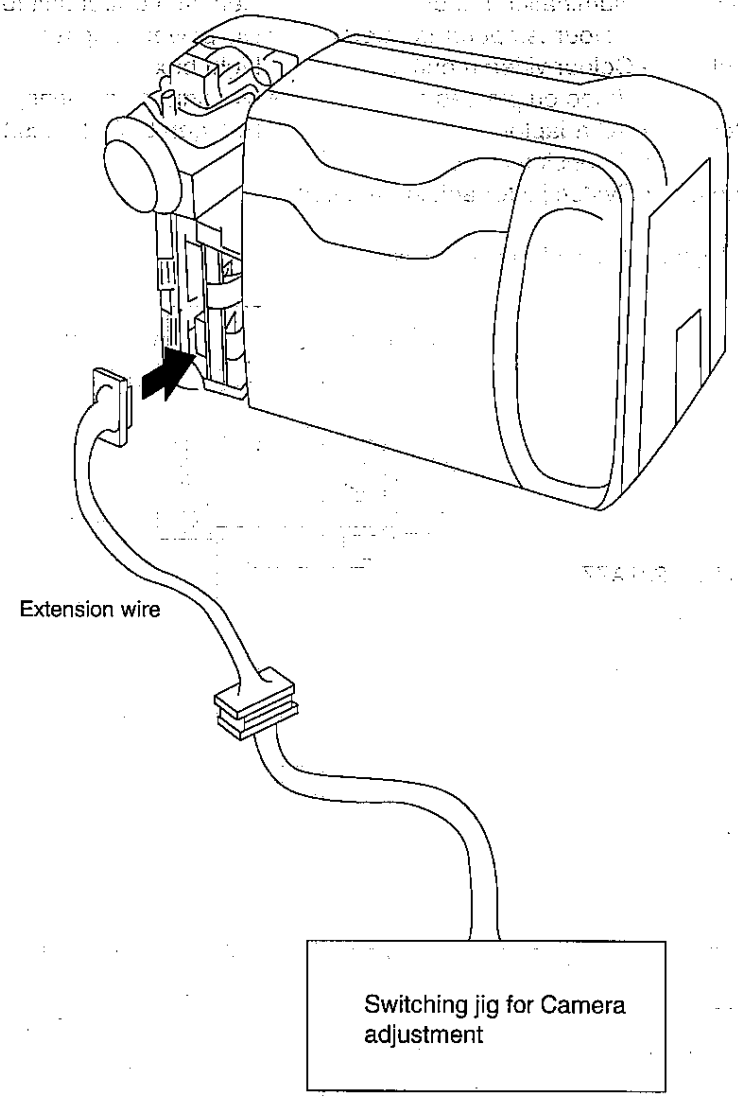
- Gray scale chart
- White chart
- Colour bar chart
- Oscilloscope
- Digital voltmeter
- Vector scope
- Frequency counter
- Illumination meter
- Colour temperature meter
- Colour video monitor
- Video output cable
- AC adaptor
- Extension cables
- Switch jig for adjustment use
- Remote control unit for servicing
- DC power supplier
- Light box
- INF adjustment lens
- Halogen Light (2 pcs.)

(2) Standard connections diagram at time of camera service



(3) Connections at the time of camera adjustment

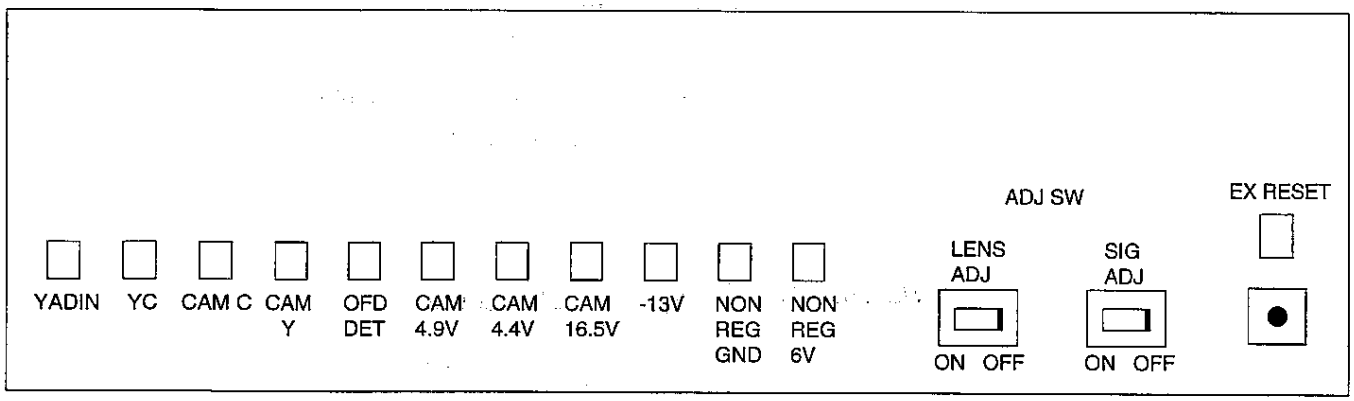
When performing camera adjustments, remove the camera's front. Then connect connector P6 on the Camera CBA to the switch jig for adjustment use via a extension wire.



(4) Switch jig for camera section adjustments

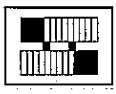
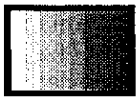
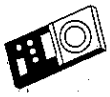
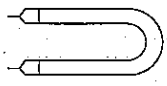
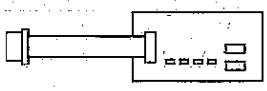
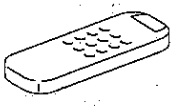
The jig is provided for switching for the purpose of waveform observation test point and camera signal system adjustments and zoom lens system auto focus adjustments during the camera adjustments. Note that a voltage is not output in all test points for a voltage. This is not a trouble, however.

All of the switches on the jig remain OFF during use.



9-2-2. List of camera jigs and tools

Note: N indicates a new jig.

No.	Name of jig	Part code	Shape	Note
1	Gray scale chart (390 x 520mm)	JiGCHART-1		
2	Colour bar chart (240 x 320mm)	JiGCHART-4		
3	Illumination meter (0 to 3000 lux)	JiGMETER-1		
4	Colour temperature meter (1600 to 400000 degrees K)	JiGMETER-2		
5	Colour temperature conversion filter (3200 degrees K → 6800 degrees K)	JiGHOYA-LB165		
6	PC plate connector drawer	JiGTH-SS10		
7	Camera adjustment switch plate (QCNW-1220TAZZ)	QCNW-1220TAZZ		
8	Extension wire (camera adjustment switch plate ↔ P6)	QCNW-1368TAZZ	 26Pin (13Pin) 20Pin	N
9	Remote control unit for servicing	RRMCG0033TASA		

9-2-3. Adjusting the camera unit

(1) Preparations for adjustments and items to be checked

1) Set up the light box so that the entire pattern is evenly lit. Set the colour temperature to 3200°K.
2) Use test patterns that are not dirty nor discolored.
3) If the electrical circuitry gets in trouble, be sure to pinpoint the trouble spot with a measuring instrument and repair or replace the defective part.

(2) Remote control for servicing RRMCG0033TASA

To adjust the camera section of this machine, the remote control for servicing (RRMCG0033TASA) is used. The adjustment is made in such a manner that the remote control writes necessary data by way of the microprocessor to the specific addresses on the E²PROM (the ROM on the lens unit).

1) To adjust the camera:
Press the "CONTINUE" key first and then the "CAM ADJ" key.
This will show

CAM ADJ
□□□□

on the LCD screen, thereby having the camera unit ready for the adjustments.

2) Descriptions of the displays

CAM □□□□ (Address value) ADJ □□□□ (Data value) (Indicates the camera adjustment mode.)

* The address values for this machine range from 0000 to 02FF.
* The data include byte data (the last two digits are effective) and 2-byte data (the last three digits are effective).

3) Descriptions of the remote control keys

"FF" key: Increases the address and data values.
"REW" key: Decreases the address and data values.
"PLAY" key: Specifies addresses and calls the data.
This key also fixes (i.e., writes to the E²PROM) the data values.
"STOP" key: Clears the data to enable the selection of address.

4) Operation flow

→ FF or REW → PLAY → FF or REW → PLAY → STOP →
Address is selected and specified, with the data called. Then the called data are selected and fixed. The operation flows in this sequence.

5) When the adjustment is complete:
Press the "CONTINUE" key to let the "CAM ADJ" display disappear from the screen.
Note: Before terminating the adjustments, make sure that the adjustment mode is neither the auto-focus function adjustment mode nor the camera signal system adjustment mode (these modes are mentioned later).

- Camera unit adjustment modes

The camera unit is adjusted in two types of modes: the auto-focus function adjustment mode and the camera signal system adjustment mode.

(3) Auto-focus function adjustment mode

- The camera unit uses a microprocessor-controlled zoom lens.
  The auto-focus circuit incorporated in this unit is designed to execute the image processing where the focusing action is done by taking advantage of the fact that the high-frequency components in the image signals increase as the focus intensifies. Moreover, to achieve high magnifying power with a small lens, the camera unit incorporates the inner focus system in which the focus is shifted by moving the master lens (rear lens) back and forth. This inner focus system is a full-range focus type by which the focus can be shifted from approximately 10 mm to the infinity. It should be noted, however, that since the closest subject distance at the telephoto end is fixed at 1.5 mm, subjects in a closer range than 1.5 mm at the telephoto end will be out of focus. For this reason, the unit is designed so that the zoom control is automatically shifted to the wide angle side until the position is found where the subject can be focused on.

  In the auto-focusing system of this unit, the following constitute the important factors:
  - Master lens position detection data
  - Iris position detection data
  - Zoom lens position detection data

  These detection data are handled and stored by the microprocessor, lens by lens, into the E²PROM.
  Therefore, in the following cases, the auto-focus function adjustment is required:
  - When the lens has been replaced
  - When the CCD has been replaced
  - When the E²PROM (located on the lens unit)

  1) Shifting to the auto-focus function adjustment mode

     Set the data for the address "02FE" to "☐☐01."

     ⇩

     This makes the screen fade temporarily in white and shifts to the auto-focus function adjustment mode.

     * When this adjustment mode has been shifted to, make the adjustments according to (5) Camera unit adjustment procedure.
     * In this adjustment mode, the lens can not be operated.

  2) Shifting to the normal operation mode

     Set the data for the address "02FE" to "☐☐FF."

     ⇩

     This makes the screen fade temporarily in white and shifts to the normal operation mode.

     ⇩

     Press the "CONTINUE" key, and the "CAM ADJ" display goes out of the screen, enabling the normal operation.

(4) Camera signal system adjustment mode

In the camera signal system adjustment mode, the automatic white balance is disabled to allow for the adjustment of the camera unit. At this time, the white balance mode is fixed at the INDOORS mode and the focus mode is switched to the manual focus mode.

1) Shifting to the camera signal system adjustment mode

   Set the data for the address "02FE" to "☐☐00."

   ⇩

   This shifts the mode to the auto-focus function adjustment mode.

   * When this adjustment mode has been shifted to, make the adjustments according to (5) Camera unit adjustment procedure.

2) Shifting to the normal operation mode

Set the data for the address "02FE" to "□□FF."

⇩

This shifts the mode to the normal operation mode.

⇩

Press the "CONTINUE" key, and the "CAM ADJ" display goes out of the screen, enabling the normal operation.

(5) Camera unit adjustment procedure

1. Auto focus adjustment
2. Basic iris adjustment
3. Black balance adjustment
4. Sync signal level adjustment
5. Burst level adjustment
6. Iris AE adjustment
7. White balance rough adjustment
8. Colour gain rough adjustment
9. White balance adjustment
10. Colour gain adjustment
11. Auto white balance adjustment

* The above 1. Auto-focus function adjustment and 2. Iris basic adjustment are performed in the auto-focus function adjustment mode, whereas the other adjustments are made in the camera signal system adjustment mode.

9-2-4. Adjustment procedures

<table>
<tr><th>Item</th><th>Adjustment procedure</th></tr>
<tr><td>(1) Auto focus adjustment</td><td>
Set the unit to the auto-focus function adjustment mode and write data to the address "02FF" one after another. This executes the adjustments automatically. The items to be adjusted are as listed below. Every time an adjustment is made properly, the data "FF" is written to the address. After each adjustment, make sure that the adjustment has been made properly, and then go on to the next adjustment item.
<table>
<tr><th>Address</th><th>Data</th><th>Adjustment item</th></tr>
<tr><td rowspan="3">02FF</td><td>000C</td><td>Linearity adjustment</td></tr>
<tr><td>0006</td><td>WIDE end focus ∞ position adjustment</td></tr>
<tr><td>0008</td><td>TELE end focus ∞ position adjustment</td></tr>
</table>
Note 1: To adjustment of ∞ position is executed by actually picking up the image of subject. For this adjustment use the subject with clear profile. Especially, if the adjsutment of TELE end focus ∞ position is made without picking up the image of remote subject, adjustment failure may occur.
Adjustment of WIDE end focus ∞ position: 3 m or more
Adjsutment of TELE end focus ∞ position: 50 m or more

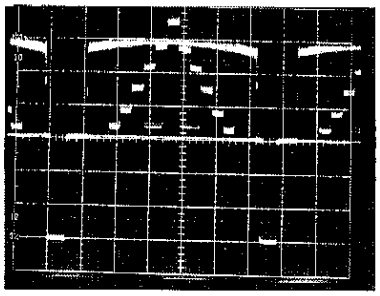
Note 2: In case of ∞ position adjustment the field depth is important to ensure the adjustment accuracy. If the field depth is high, the focus becomes too stable, which may cause incorrect adjustment of ∞ position. Therefore the adjustment must be made with low field depth (with iris opened).

Iris can be released through the use of a high-speed shutter, in the following manner.
1. Return to the normal operation mode.
2. Click the high-speed shutter in the normal operation mode until the iris is released. (See the instruction manual.)
3. Display "CMA ADJ" in the screen with the remote control for servicing.
4. Shift to the auto-focus function adjustment mode.
5. Make the ∞ position adjustments.
6. After the adjustments, return the high-speed shutter to the normal mode.
</td></tr>
<tr><td>(2) Iris basic adjustment</td><td>
This is for adjusting the operating point of the hole element installed in the iris meter of the lens.
Set the unit to the auto-focus function adjustment mode and write data to the address "02FF" one after another. This executes the adjustments automatically. The items to be adjusted are as listed below. Every time an adjustment is made properly, the data "00FF" is written to the address.
<table>
<tr><th>Address</th><th>Data</th><th>Adjustment item</th></tr>
<tr><td rowspan="3">02FF</td><td>0009</td><td>Hall offset adjustment</td></tr>
<tr><td>000A</td><td>Iris offset adjustment</td></tr>
<tr><td>000B</td><td>Iris close adjustment</td></tr>
</table>
</td></tr>
</table>

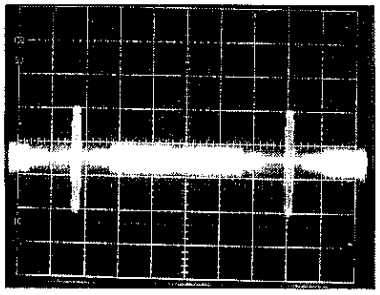
<table>
<tr><th>Item</th><th>Adjustment procedure</th></tr>
<tr><td>(3) Black balance adjustment</td><td>1) Prior to the adjustment, initialize the data for the addresses "01E4" thru "01E9." Write "□□FF" (the last two digits are effective) to all of these addresses.
2) In the camera signal system adjustment mode (the data "□□00" is written to the address "02FE), write the data "□□01" to the address "02FF" This starts the adjustment automatically. When the adjustment is completed properly, the data "00FF" is written automatically.
3) Calculate the data.
<table><tr><th>Address</th><th>Processing</th></tr><tr><td>01E4</td><td>Written data minus 03 (subtraction)</td></tr><tr><td>01E5</td><td>Written data minus 03 (subtraction)</td></tr><tr><td>01E6</td><td>Written data minus 08 (subtraction)</td></tr><tr><td>01E7</td><td>Written data minus 02 (subtraction)</td></tr><tr><td>01E8</td><td>Written data minus 05 (subtraction)</td></tr><tr><td>01E9</td><td>Written data minus 09 (subtraction)</td></tr></table></td></tr>
<tr><td>(4) Synch signal level adjustment

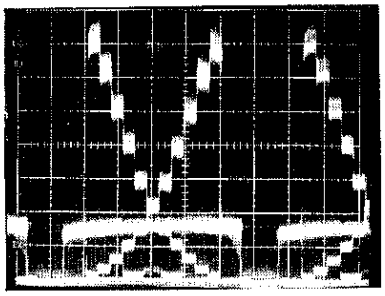
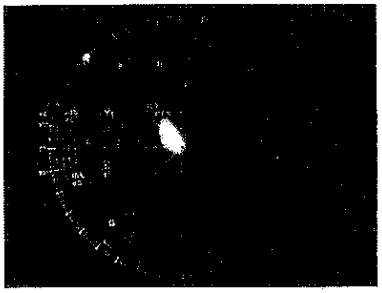
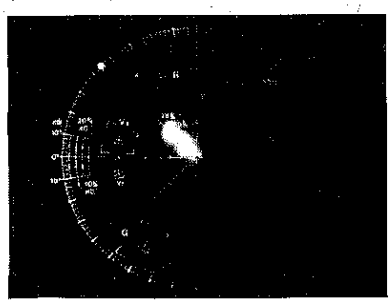
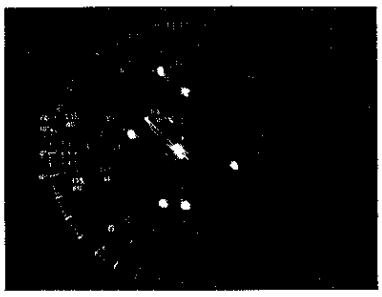
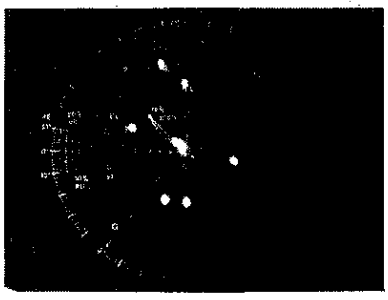
Measurement terminal: CAM Y
Address : "01F8" YGAIN_CAM
Measuring instrument : Oscilloscope (horizontal cycle)
Subject : Anyting.
Variable data width range : "0000" - "00FE"</td><td>1) With the lens shaded, observe the video output with the oscilloscope, and rewrite the data for the address "01F8" so that the SYNCH level will be adjusted to 300 ± 10 m Vp-p.

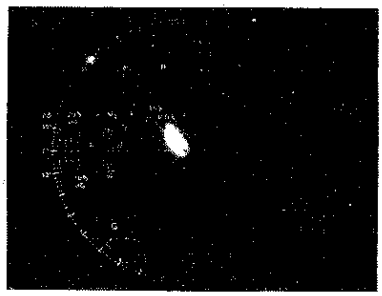
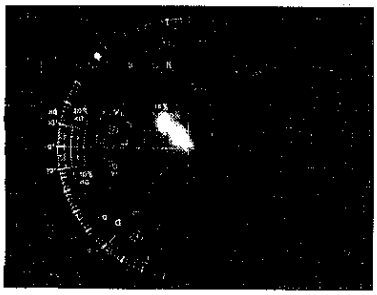
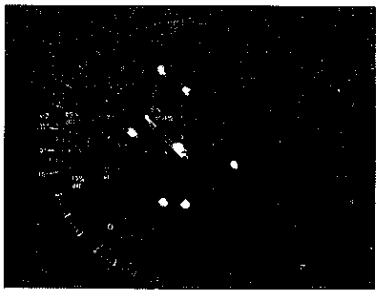
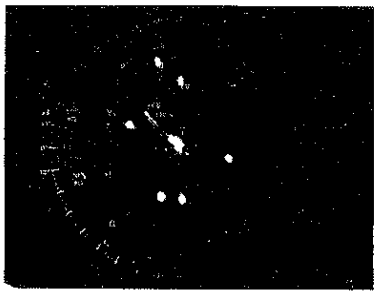
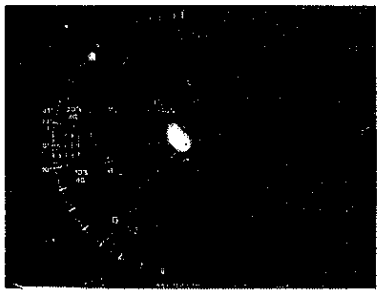
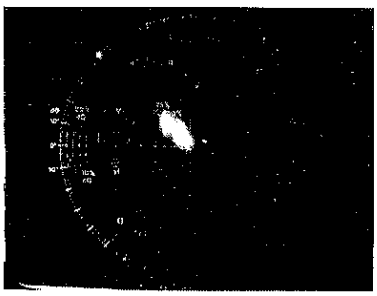
Note: When changing the data, the screen may get distorted. This is no trouble.

  </td></tr>
<tr><td>(5) Burst level adjustment

Measurement terminal: CAM C.
Address : "01F9" CGAIN_CAM
Measuring instrument : Oscilloscope (horizontal cycle)
Subject : Anything
Variable data width range : "0000" - "00FE"</td><td>1) Observe the video output with the oscilloscope, and rewrite the data for the address "01F9" so that the burst level will be adjusted to 300 ± 20 m Vp-p.

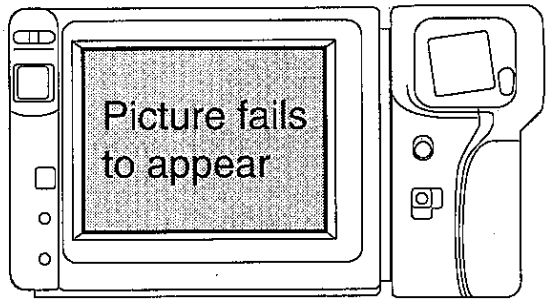
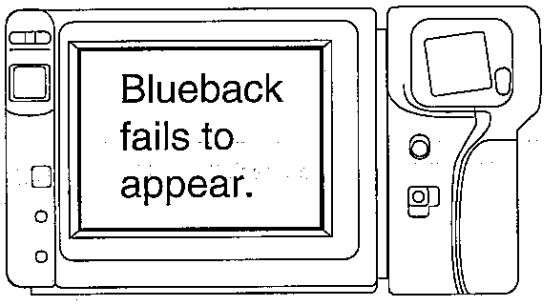
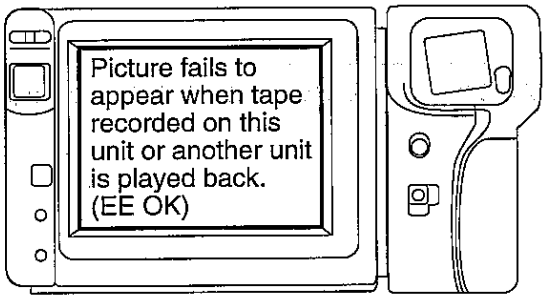
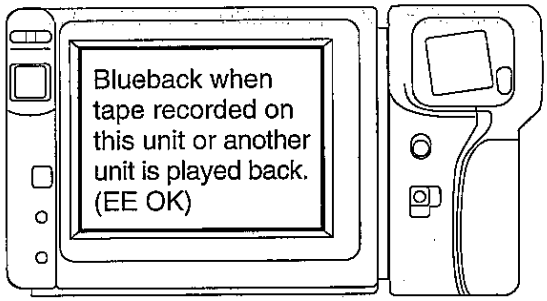
  </td></tr>
</table>

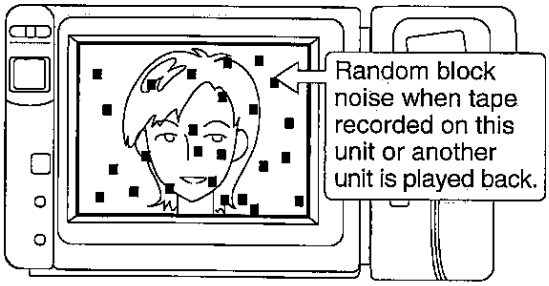
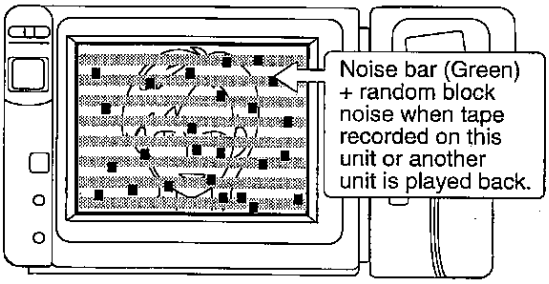
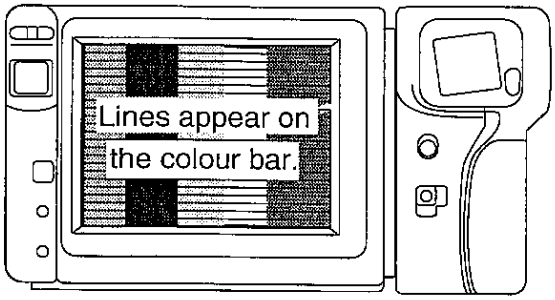
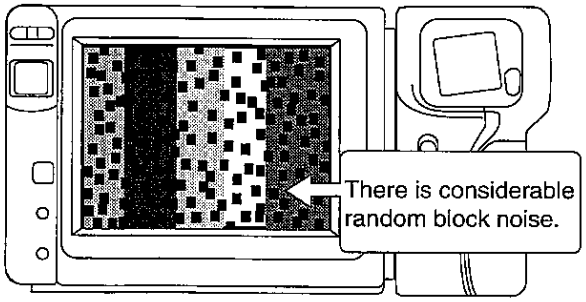
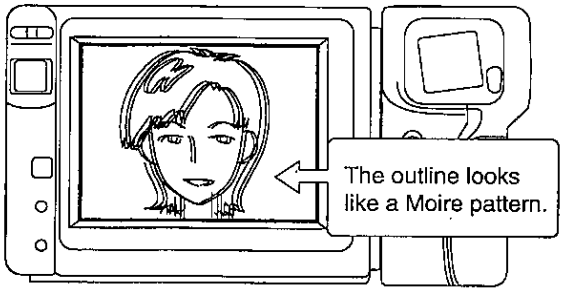
Item	Adjustment procedure
(6) Iris AE adjustment Measurement terminal: Y-ADIN Address : "02FD" AE_CVT Measuring instrument : Oscilloscope (horizontal cycle) Subject : Gray scale Variable data width range : "0000" - "00FE"	1) With the unit set in the standard gray scale shooting mode, observe the video output with the oscilloscope, and rewrite the data for the address "02FD" so that the brightness signal level will be 700 ± 20 m Vp-p. 
(7) White balance rough adjustment Measurement terminal: EE OUT Address : "0010" INDOOR_R "0012" INDOOR_B Measuring instrument : Vector scope Subject : White chart Variable data width range : "0000" - "03FF"	1) Shoot the white chart, and adjust the zoom position so that the brightness level be as flat as possible. 2) Modify the data of addresses 0010 and 0012 so that the bright spot on the vector scope screen be 10% (VL-DC1E), 20% (VL-DC1H/S) along the R-Y axis and -10% (VL-DC1E), -20% (VL-DC1H/S)along the B-Y axis in the burst ratio. **VL-DC1E**  **VL-DC1H/S** 
(8) Colour gain rough adjustment Measurement terminal: EE OUT Address : "0106N RYG "0104" CGIN BYG "0102" CMAT RYG "0100" CMAT BYG Measuring instrument : Vector scope Subject : Colour bar chart Variable data width range : "0000" - "007F"	1) Shoot the colour bar chart and adjust the view angle so that the white leve be 600mV. Observe the chart on the vector scope screen. Rewrite the data of addresses 106, 104, 100 and 102 so that the red and blue bright spots be as specified below. (The burst gain must be set at the 75% amplitude along the B-Y axis on the vector scope screen.) **VL-DC1E**  **VL-DC1H/S**  | | VL-DC1E | VL-DC1H/S | Adjustment address | |---|---|---|---| | Red amplitude | 1.75 ± 0.1 (burst ratio) | 1.85 ± 0.1 (burst ratio) | "0106" | | Blue amplitude | 1.05 ± 0.1 (burst ratio) | 1.00 ± 0.1 (burst ratio) | "0104" | | Red phase | 104° ± 2° | 105° ± 2° | "0100" | | Blue phase | 345° ± 2° | 347° ± 2° | "0102" |

Item	Adjustment procedure
(9) White balance adjustment Measurement terminal: EE OUT Address : "0010" INDOOR R "0012" INDOOR B Measuring instrument : Vector scope Subject : Gray scale Variable data width range : "0000" - "03FF"	1) Repeat the white balance adjustment. **VL-DC1E**  **VL-DC1H/S**  VL-DC1E: R-Y 10 ± 5 % (burst ratio); B-Y - 10 ± 5 % (burst ratio) VL-DC1H/S: R-Y 20 ± 0.1 (burst ratio); B-Y - 20 ± 0.1 (burst ratio)
(10) Colour gain adjustment Measurement terminal: EE OUT Address : "0106" CGIN RYG "0104" CGIN BYG "0102" CMAT RYG "0100" CMAT BYG Measuring instrument : Vector scope Subject : Colour bar chart on wave form monitor Variable data width range : "0000" - "003F"	1) Repeat the colour gain adjustment. **VL-DC1E**  **VL-DC1H/S**  VL-DC1E: Red amplitude 1.75 ± 0.1 (burst ratio); Blue amplitude 1.05 ± 0.1 (burst ratio); Red phase 104° ± 2°; Blue phase 345° ± 2° VL-DC1H/S: Red amplitude 1.85 ± 0.1 (burst ratio); Blue amplitude 1.00 ± 0.1 (burst ratio); Red phase 105° ± 2°; Blue phase 347° ± 2°
(11) Automatic white balance adjustment Measurement terminal: EE OUT Address : "0016" OUTDOOR R "0018" OUTDOOR B Measuring instrument : Vector scope Subject : Gray scale Variable data width range : "0000" - "03FF"	1) Attach the colour temperature conversion filter (LB165) to the lens. 2) Shoot the white chart, and adjust the zoom position so that the brightness level be as flat as possible. 3) Modify the data of addresses 0016 and 0018 to get ready for the outdoor white balance adjustment. VL-DC1E: R-Y 10 ± 5 % (burst ratio); B-Y - 10 ± 5 % (burst ratio) VL-DC1H/S: R-Y 20 ± 5 (burst ratio); B-Y - 15 ± 5 (burst ratio) **VL-DC1E**  **VL-DC1H/S** 

After the adjustments are complete, set the unit back in the normal operation mode (i.e., write the data "□□FF" to the address "02FE.")

10. USEFUL TIPS (PROBLEMS DIFFER FROM THOSE FOUND ON VHS OR 8mm DECKS BECAUSE THE SIGNALS ARE DIGITALLY PROCESSED.)

Problems	Major circuits to be checked
Camera (EE mode) 	• CCD • Camera circuits (CDS, ADC, DSP) • PCI (IC4401, IC4402) • PTC (IC4411) • LCD_DSP (IC800) • Gui microprocessor (IC3721)
VCR (EE mode) 	• PTC (IC4411) • Mechanical controller (IC702) • LCD_DSP (IC800) • Gui microprocessor (IC3721)
Camera (REC mode) VCR (PB mode) 	• PTC (IC4411) • CODEC 1 and 2 (IC401, IC411) • Transport 1 (IC405)
Camera (REC mode) VCR (PB mode) 	• Transport 2 (IC408) • PLL (IC3401) • ATF (IC3402) • Head amplifier (IC301) * Dirty or defective video head

Problems	Major circuits to be checked
Camera (REC mode) VCR (PB mode)  	• Transport 2 (IC408) • PLL (IC3401) • ATF (IC3402) • Head amplifier (IC301) * Dirty or defective video head
VCR (PB mode) + colour bar 	• Data between CODEC 1 (IC401) and co-deck 2 (IC411) is missing.
VCR (PB mode) + colour bar 	• Data between CODEC 2 (IC411) and transport 1 (IC405) is missing.
Camera (EE mode) 	• Y data between camera DSP (IC201) and LCD_DSP (IC800) is missing.

1. TECHNISCHE DATEN

Signalsystem:	PAL-Standard
Aufnahmesystem:	2 rotierende Köpfe, Schrägspurverfahren
Cassette:	Digital-VCR Mini-DV-Videocassette
Laufzeit für Aufnahme/Wiedergabe:	60 Minuten (DVM60)
Bandgeschwindigkeit:	18,831 mm/Sek.
Aufnahmeelement:	1/4-Zoll (6,4 mm; effektive Größe: 4,5 mm) CCD-Bildsensor (mit ca. 470.000 Pixeln einschl. optischem Schwarz)
Objektiv:	12 fach-Motorzoom-Objektiv (F1,8; f = 4,2–50,4 mm); Vollbereich-Autofocus
Filtergewindedurchmesser:	37 mm
Monitor:	4-Zoll (10,1 mm) Vollfarb-LCD-Bildschirm (TFT Active Matrix)
Mikrofon:	Electret-Stereomikrofon
Farbtemperatur-Kompensation:	Automatischer Weißabgleich, Einstellung arretierbar
Erforderliche Mindestbeleuchtung:	6 Lux* (bei Lichtverstärkung, Digital-Zoom aus)
Video-Ausgangspegel:	1,0 Vs-s, 75 Ohm, unsymmetrisch
Audio-Ausgangspegel:	−8 dBs, max. 2,2 kOhm Impedanz
Lautsprecherleistung:	300 mW
Eingang für externes Mikrofon:	3,5 mm-Minibuchse, −66 dBs, 6,8 kOhm Ausgangsimpedanz; 4 V Gs für Mikrofon mit externer Spannungsversorgung
Spannungsversorgung:	3,6 V Gs
Leistungsaufnahme:	8,5 W (bei Kamera-Aufnahme in FULL AUTO-Betriebsart, Zoommotor aus, Hinterlicht normal)
Temperaturbereich (Betrieb):	0 °C bis +40 °C
Rel. Luftfeuchtigkeit (Betrieb):	30 % bis 80 %
Temperaturbereich (Lagerung):	−20 °C bis +60 °C
Abmessungen (ca.):	181 (B) × 99 (H) × 88 (T) mm
Gewicht (ca.):	690 g (ohne Akku, Lithiumbatterie und Videocassette)

Netzadapter/Batterieladegerät

Stromquelle:	100-240 V Netzspannung, 50/60 Hz
Gleichspannungsausgang:	4,5 V
Leistungsaufnahme:	25 W
Abmessungen (ca.):	120 × 51 × 101,5 mm (B × H × T)
VL-DC1E:	
Gewicht (ca.):	Für Asien/Mittlerer Osten (UADP-0233TAZZ): 394 g Für Hong Kong (UADP-0219TAZZ): 460 g Für Australien/Neuseeland (UADP-0216TAZZ): 420 g Für Rußland (UADP-0235TAZZ): 394 g
VL-DC1H:	
Gewicht (ca.):	(UADP-0215TAZZ): 460 g
VL-DC1S:	
Gewicht (ca.):	(UADP-0214TAZZ): 380 g

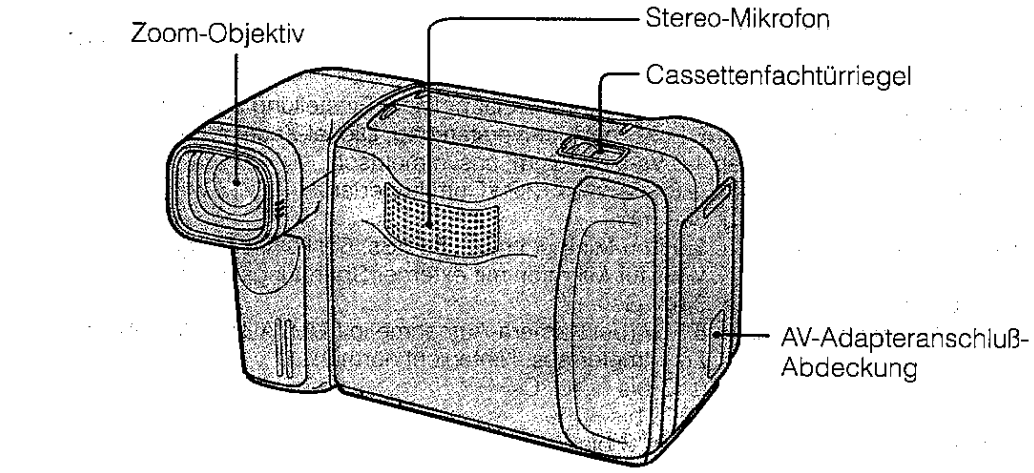
Änderungen der technischen Daten ohne vorausgehende Ankündigung vorbehalten.

*Mindestbeleuchtung: In Ermangelung einheitlicher Meßmethoden sind die Lux-Angaben zur erforderlichen Mindestbeleuchtung (Empfindlichkeit) nur jeweils unter Modellen des selben Herstellers vergleichbar.

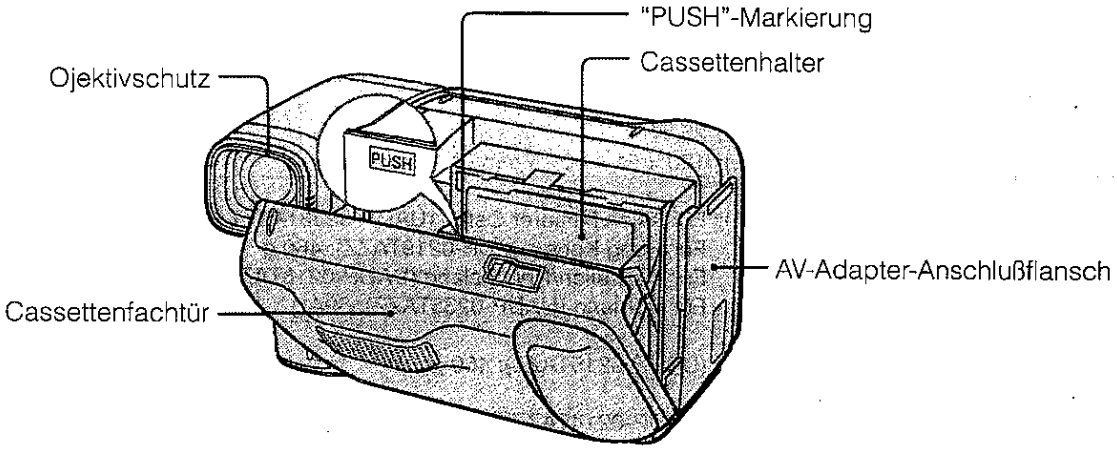
2. BEZEICHNUNG DER TEILE

Näheres zur Benutzung der Bedienelemente finden Sie auf den in Klammern angegebenen Seiten.

Vorderseite

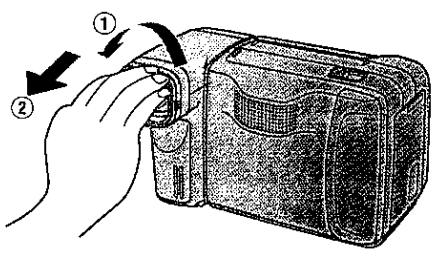


Bei geöffneter Cassettenfachtür

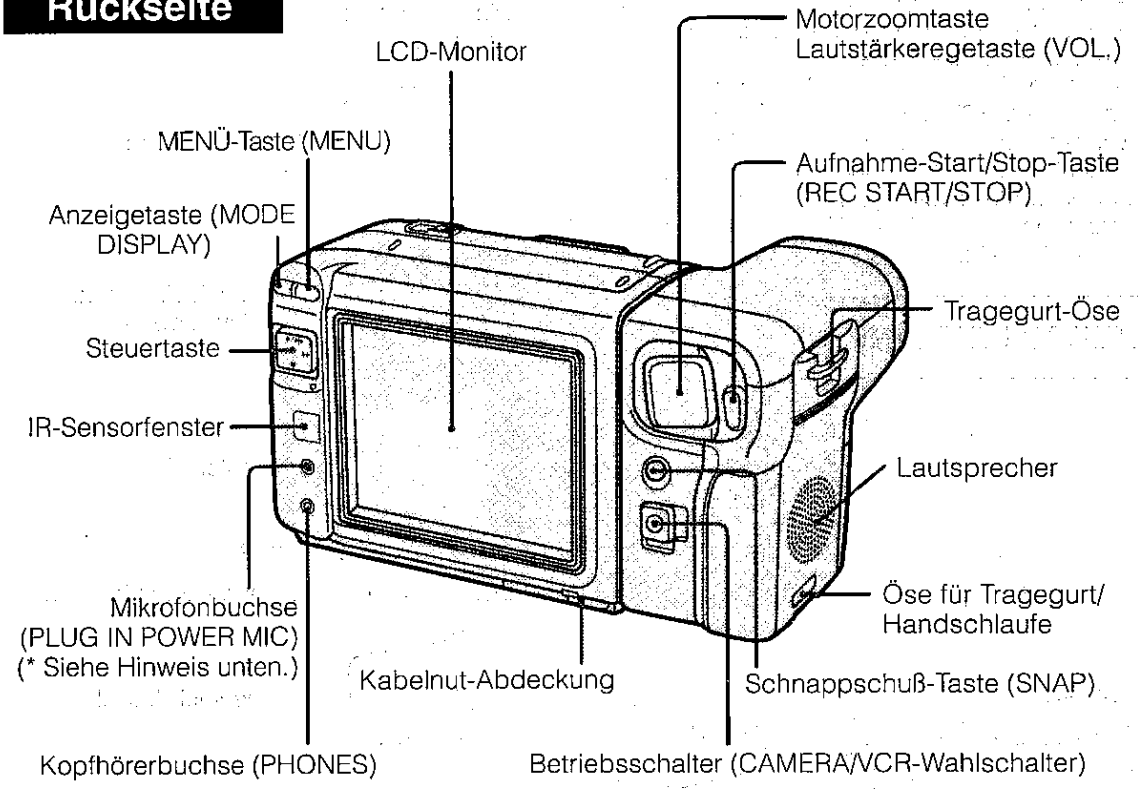


Abnehmen des Objektivschutzes

Vor dem Anbringen eines Weitwinkel- oder Tele-Konverters (Sonderzuhör) durch Schrauben gegen den Uhrzeigersinn den Objektivschutz abnehmen.



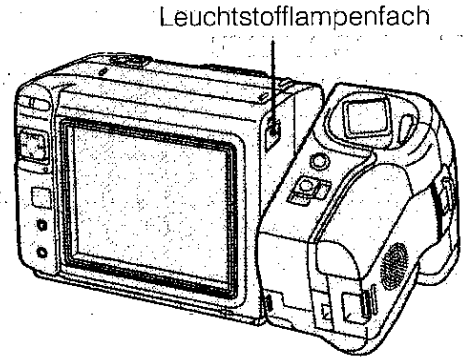
Rückseite



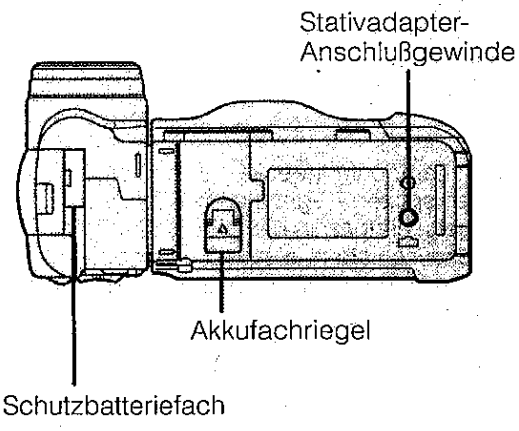
*** Zur Mikrofon-Anschlußbuchse (PLUG IN POWER MIC)**
Diese Mikrofonbuchse liefert eine Gleichspannung von 4,0 V. Sie dient für den Anschluß des mit dem gesondert erhältlichen Sportgehäuse gelieferten Mikrofons oder eines beliebigen Kondensator-Mikrofons für 2,5 - 4,0 V Gleichspannung mit 3,5mm-Klinkenstecker. Keine anderen Mikrofontypen verwenden, da dies eine Beschädigung des Mikrofons oder des VIEWCAM zur Folge haben könnte.

Seite

Bei gedrehtem Kamera-Modul

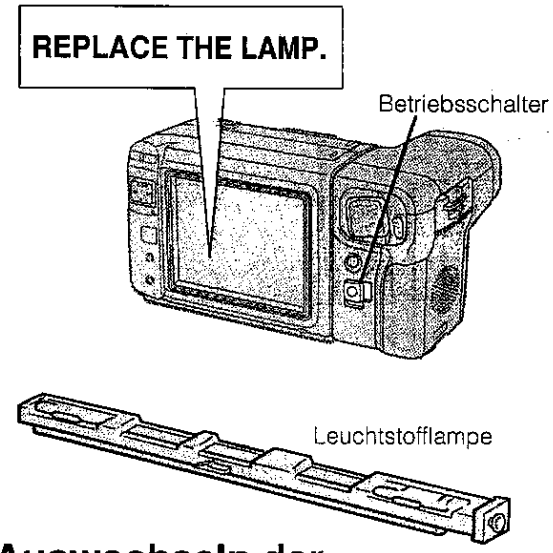


Boden



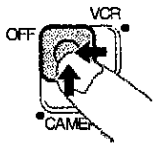
HINTERLICHT-LEUCHTSTOFFLAMPE

Die Leuchtstofflampe für die Hintergrundbeleuchtung des LCD-Monitors besitzt nur eine begrenzte Lebensdauer. Wenn die Lampe das Ende ihrer Lebensdauer erreicht hat, wird auf dem Monitor etwa eine Minute lang die Warnanzeige "REPLACE THE LAMP." (Lampe auswechseln) angezeigt. In diesem Falle ist die verbrauchte Leuchtstofflampe durch eine neue Lampe (KLMPV0018TAZZ) zu ersetzen. Ersatzlampen sind bei Ihrem Händler oder über den SHARP Ersatzteildienst erhältlich.

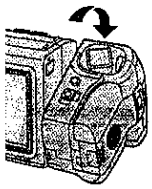


Auswechseln der Leuchtstofflampe

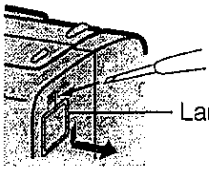
1 Den Betriebsschalter des VIEWCAM auf "OFF" stellen und etwa 15 Minuten warten, damit die Lampe sich abkühlt.



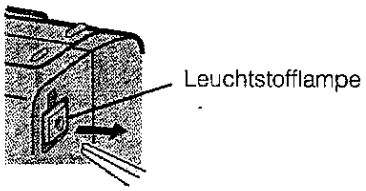
2 Den Objektivteil des VIEWCAM in Pfeilrichtung halb nach vorn schwenken.



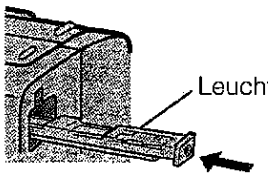
3 Den Lampenfachdeckel abnehmen. Dazu einen spitzen Gegenstand (z.B. Kugelschreiber) in die Öffnung über dem Deckel schieben, die Deckelfreigabe "⊟"nach unten drücken und und den Deckel abziehen.



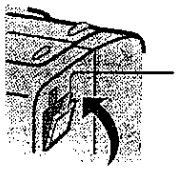
4 Die Leuchtstofflampe vorsichtig mit einer Pinzette am Ende (weißer Knopf) greifen und herausziehen.



5 Die Ersatzlampe in das Fach einsetzen. Dabei den nachstehenden Hinweis beachten.



6 Den Lampenfachdeckel wieder anbringen.



Hinweise:

- In Schritt 5 die Ersatzlampe geradlinig in Pfeilrichtung in das Fach schieben. Dabei die Lampe nicht verkanten, da die Kontakte beschädigt werden könnten.
- Falls die Leuchtstofflampe nach dem ersten Einschalten flimmert, den VIEWCAM aus- und wieder einschalten.
- Bei Benutzung an kalten Orten kann die Helligkeit der Leuchtstofflampe herabgesetzt sein.
- Vor dem Auswechseln der Leuchtstofflampe den Akku entnehmen.

Zur Beachtung:

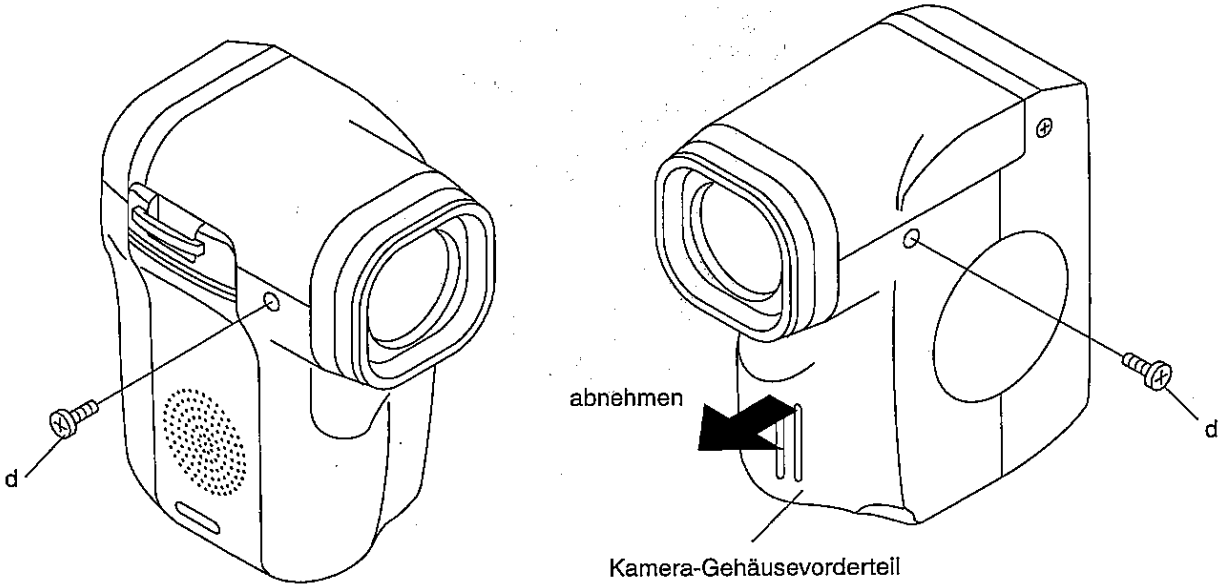
- Unmittelbar nach dem Betrieb des VIEWCAM ist die Leuchtstofflampe noch sehr heiß. Die Lampe nach dem Ausschalten mindestens 15 Minuten abkühlen lassen, bevor sie ausgewechselt wird. Wenn versucht wird, die noch heiße Leuchtstofflampe auszuwechseln, kann dies Verbrennungen und andere Verletzungen zur Folge haben.

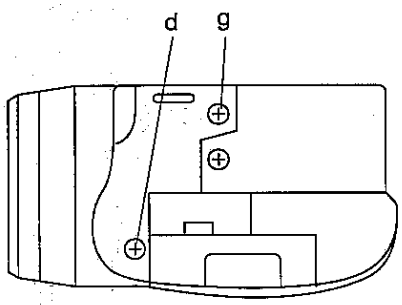
3. ZERLEGEN DES GERÄTS

3-1. Abnehmen der Kameraeinheit

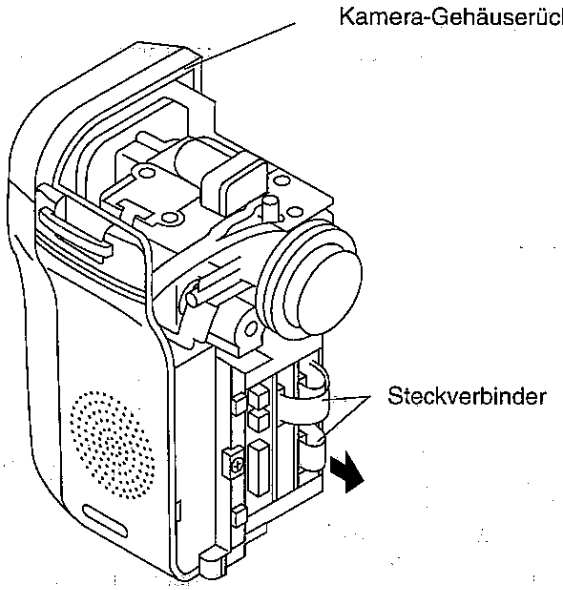
Vorsicht: Vor dem Entfernen der Gehäuseteile unbedingt die Spannungsversorgung ausschalten und sicherstellen, daß keine Batterie enthalten ist.

1) Die vier Schrauben entfernen und das Gehäusevorderteil der Kamera abnehmen.

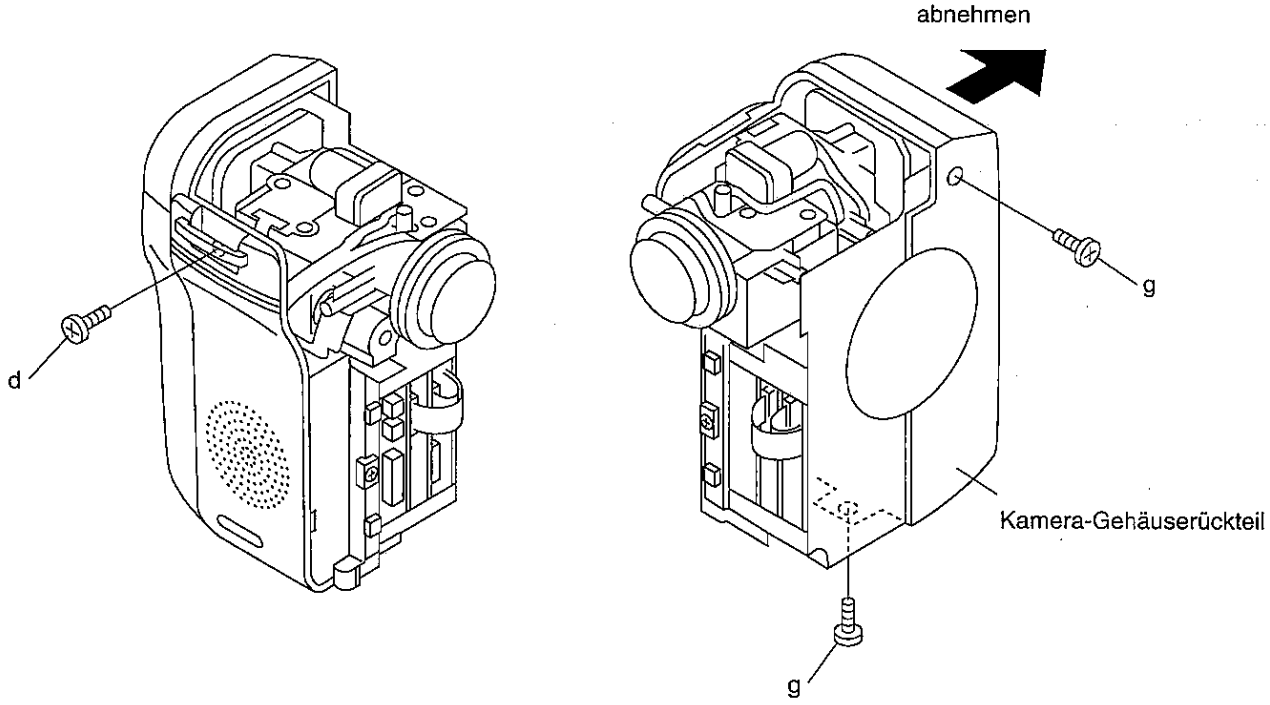




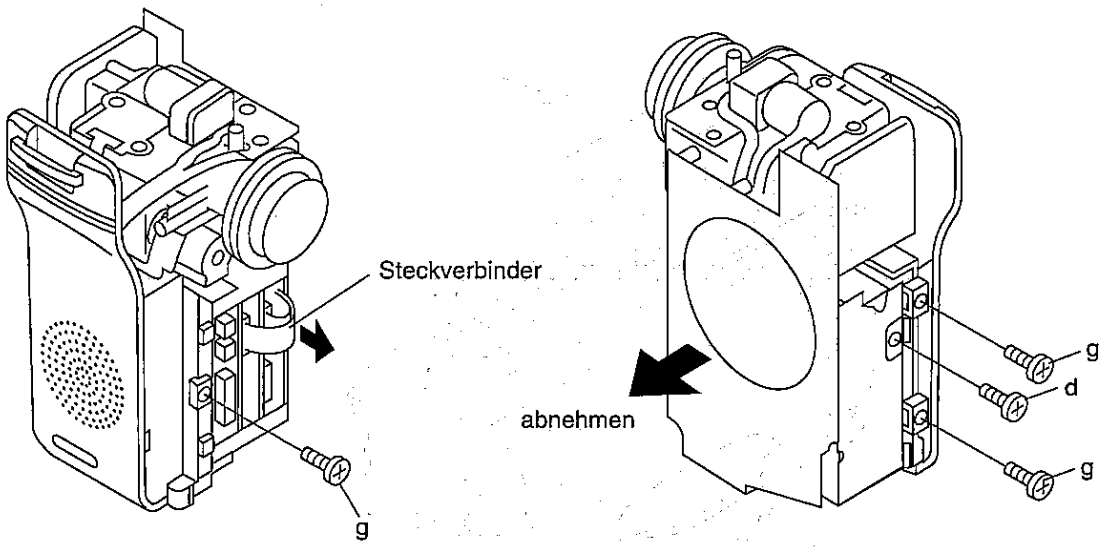
2) Den unteren Steckverbinder abtrennen.



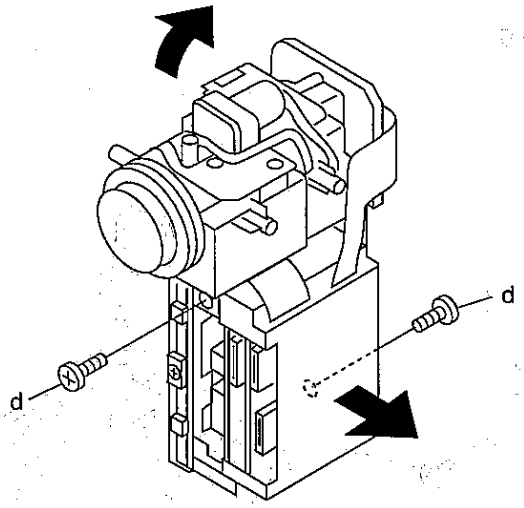
3) Die drei Schrauben entfernen und das Gehäuserückteil der Kamera abnehmen.



4) Den oberen Steckverbinder abtrennen und die vier Schrauben entfernen.
Das Gehäuseseitenteil vom Neigungsrahmen C abnehmen.



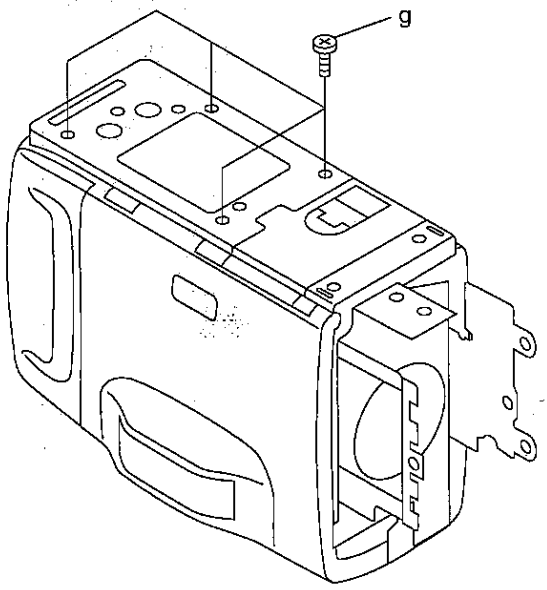
5) Die zwei Schrauben entfernen und die Kamera-Leiterplatte und das Objektiv zusammen herausnehmen.



3-2. Zerlegen des Gehäuses

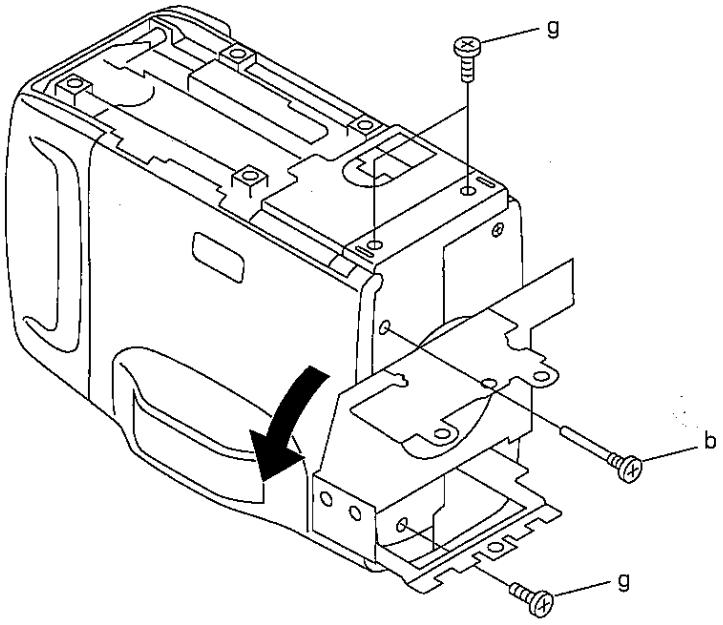
3-2-1. Entfernen der unteren Abdeckung

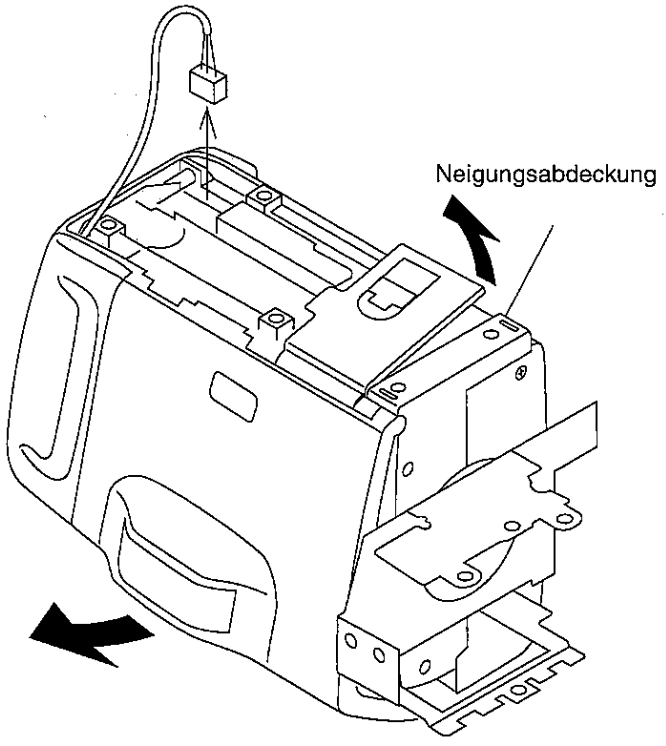
1) Die vier Schrauben entfernen und die untere Abdeckung aus dem Gehäuse nehmen.



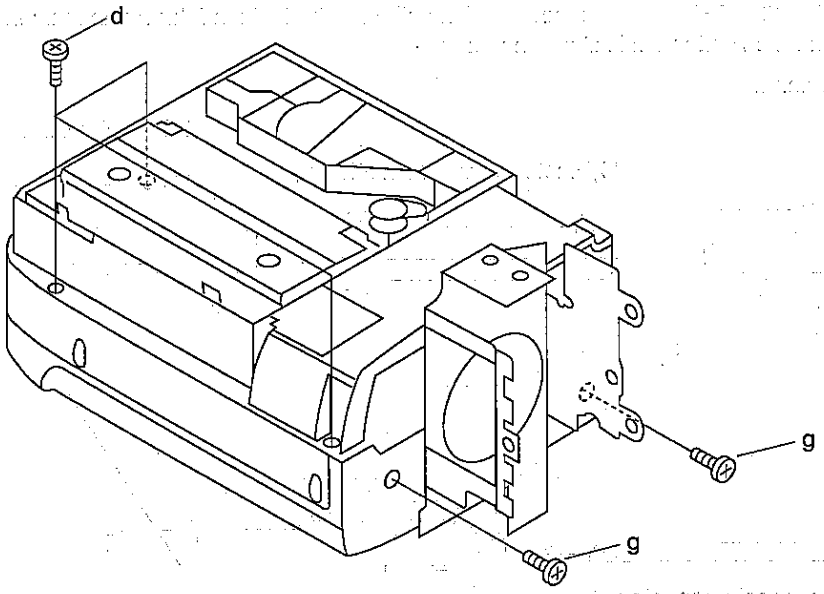
3-2-2. Entfernen des linken Gehäuseteils

1) Die vier Schrauben entfernen, den Steckverbinder abtrennen und die Videorecorder-Abdeckung und Batterie-Abdeckung öffnen. Dann die Neigungsabdeckung abnehmen.

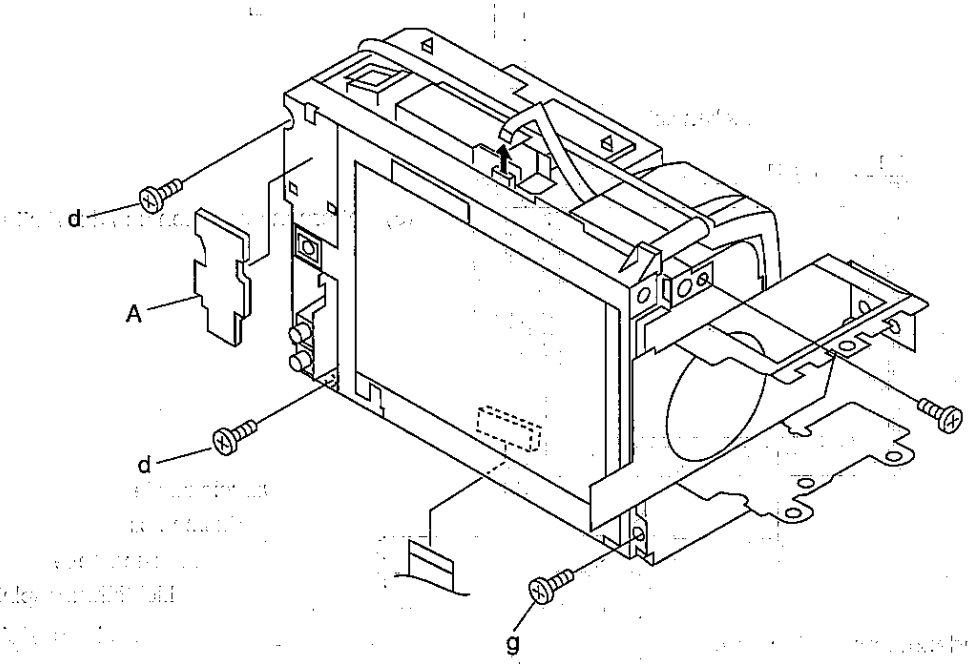




2) Die fünf Schrauben entfernen und das linke Gehäuseteil abnehmen.

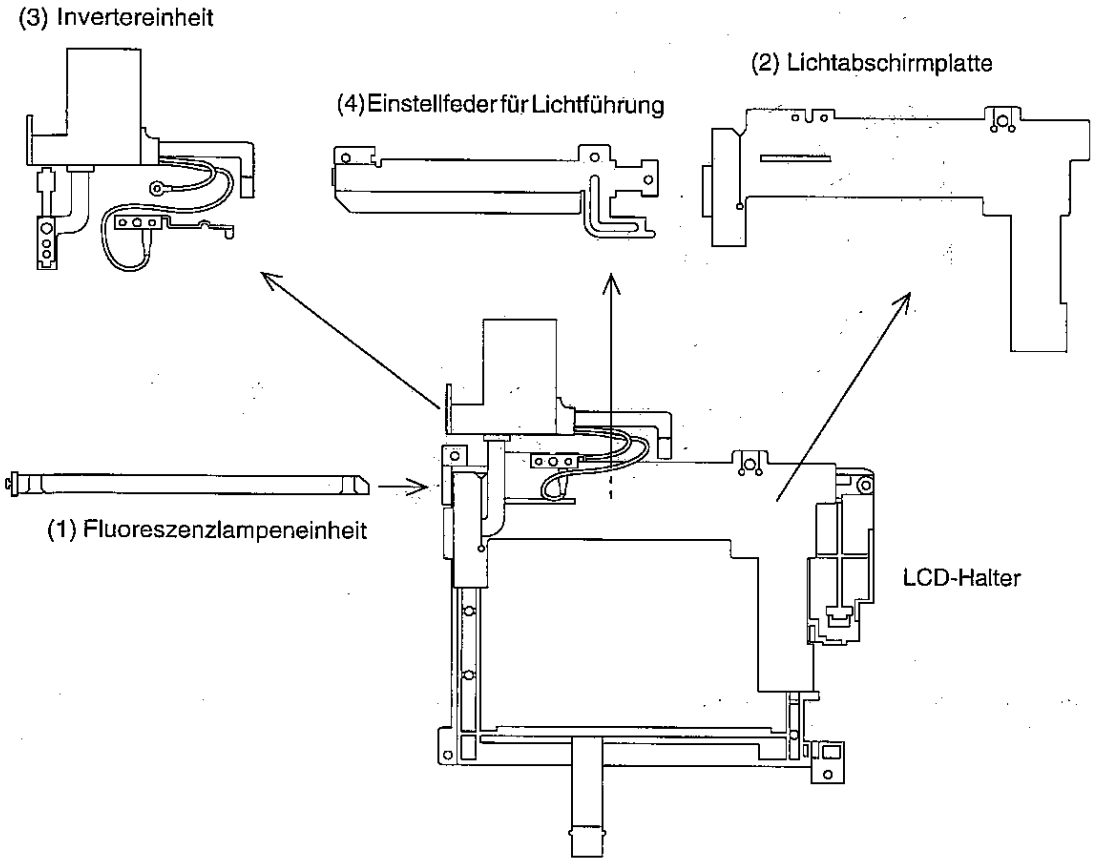


3) Das Teil A abnehmen, die drei Schrauben entfernen und den Steckverbinder des flexiblen Kabels abtrennen. Die LCD-Einheit kann jetzt herausgenommen werden.

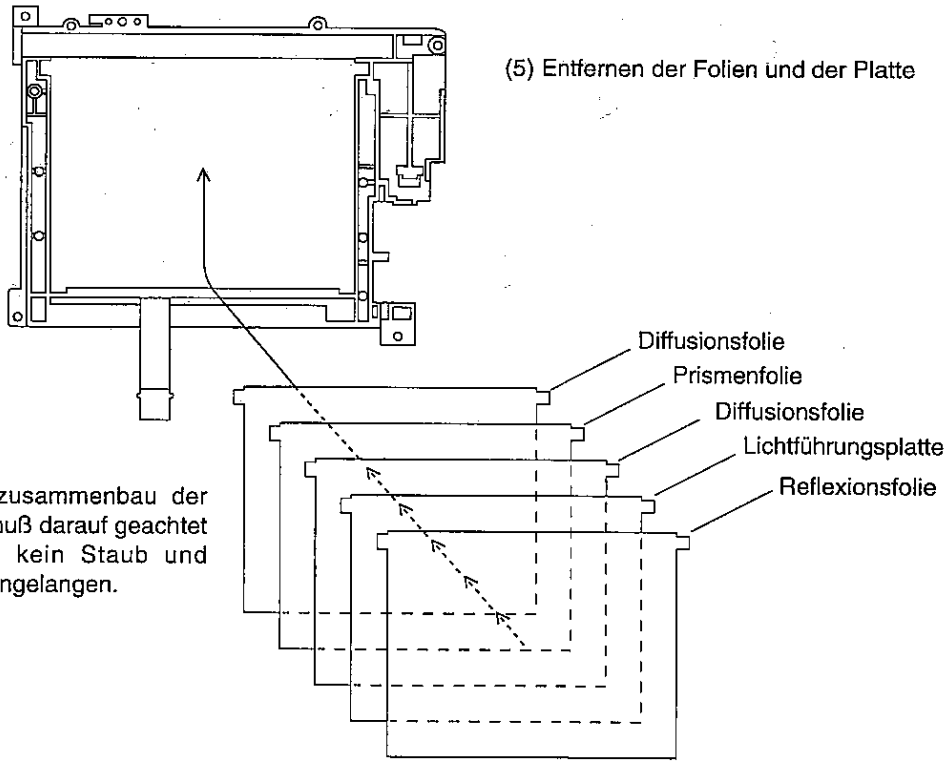


Entfernen der LCD-Einheit

1. Die Fluoreszenzlampeneinheit aus dem LCD-Halter ziehen.
2. Die zwei Schrauben (LX-HZ0031TAFF) entfernen und die Lampenabschirmplatte abnehmen.
3. Die Schraube (LX-HZ0031TAFF) entfernen und die Invertereinheit abnehmen.
4. Die Schraube (LX-HZ0031TAFF) entfernen und die Einstellfeder für die Lichtführung abnehmen.
5. Zuletzt alle Folien und die Platte vom Halter abnehmen.



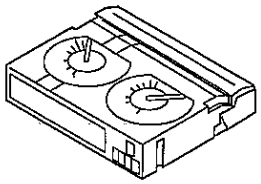
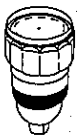
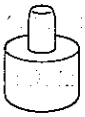
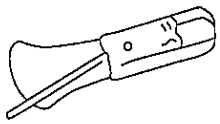
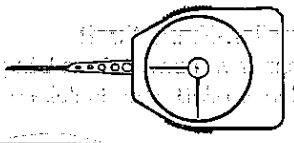
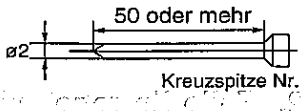
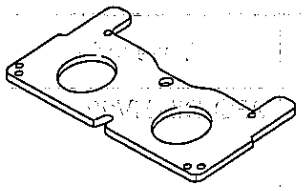
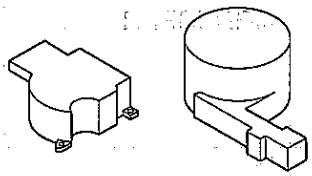
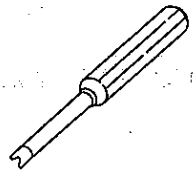
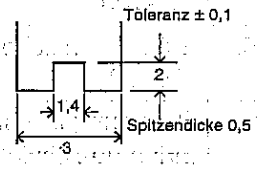
Rückansicht

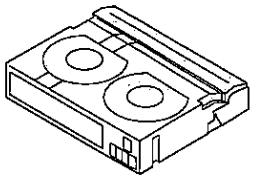


VORSICHT:Beim Wiederzusammenbau der LCD-Einheit muß darauf geachtet werden, daß kein Staub und Schmutz hineingelangen.

4. HILFSVORRICHTUNGEN UND TEILE ZUR EINSTELLUNG DES MECHANISMUS

4-1. Hilfsvorrichtungen zur Überprüfung der Mechanismus-Einstellung

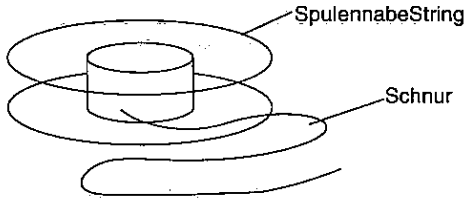
Nr.	Bezeichnung	Teilecode	Aussehen	Modellnummer und Verwendung
1.	Wiedergabecassette für Drehmomentmessung	9DASD-1015		• SD-1015
2.	Drehmomentmesser	JiGTG0045		• Für Verwendung bei VS-REW zur Erfassung der Drehmomentmessung
3.	Kopfstück für Drehmomentmesser	9EQTGH-DH5000		• Für Verwendung mit dem obigen Drehmomentmesser
4.	Spannungsanzeige 4 N (400 gf)	JiGSG0400		• Zur Messung des Andruckrollendrucks
5.	Spannungsmesser	9DAPTG-10-10W		• PTG-10
6.	Drehmoment-Schraubendreher 150 mNm (1,5 kgcm)	JiGTD1500RTDH		
7.	Hauptplanstück	9EQMP-DH5000		• Zur Überprüfung des Spulenbasishöhe
8.	Höheneinstellvorrichtung	9EQHG-DH5000		• Zur Einstellung der Höhe der Aufwickelführung • Zur Einstellung der Höhe der Abwickelrolle
9.	Schraubendreher für Höheneinstellung	9EQDRiVER-DH5		• Zur Einstellung der Stellen-Rolle • Zur Einstellung der Führungsrolle • Zur Einstellung der Aufwickelführung • Zur Einstellung der Spulenbasis • Form der Spitze (siehe Abbildung unten) 

Nr.	Bezeichnung	Teilecode	Aussehen	Modellnummer und Verwendung
10.	Abgleichcassette	90ADVC-TAPEPAL		• Für Bandlaufeinstellung (Farbbalken)
11.	Verschiedenes (1) Schieblehre (2) Präzisionsschraubendreher (Kreuzschlitz und Schlitz) (3) Radio-Nadelzange (4) Pinzette			

<Herstellen von Hilfsvorrichtungen für Prüfung und Einstellung des Mechanismus>

(1)Spulennabe für Rückspannungsmessung

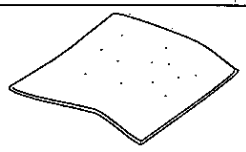
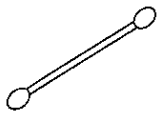
1) Eine im Fachhandel erhältliche Cassettenspulennabe erwerben. (Die Cassette zerlegen und das Band von der Spulennabe entfernen.)
2) Ein Ende einer Schnur (etwa 20 cm lang) mit Klebeband oder dergleichen an die Spulennabe kleben.



(2)Schnur für Messung der Andruckrollen-Einrastkraft

1) Eine im Fachhandel erhältliche Schnur von etwa 20 cm Länge erwerben (Durchmesser etwa 0,3 mm).
2) Die beiden Enden zusammenbinden, so daß eine Schleife entsteht.

4-2. Teile für regelmäßige Überprüfung und Wartun

Nr.	Bezeichnung	Teilecode	Aussehen	Modellnummer und Verwendung
1.	Öl (1) Cosmo Hydro HV22	9EQ-OiL-HV22		* Cosmo Petroleum K.K.
2.	Reinigungspapier	JiGDUSPER		• DUSPER (SIGMA) (ozu Co., Ltd.)
3.	Äußerst dünnes Wattestäbchen			• Im Fachhandel erhältlich
4.	Schmierfett: Moly Coat YM-103	99FGREASE-YM103		• Dow Corning
5.	Schraubensicherungsmittel (1401B)			• Three Bond
6.	Reinigungsflüssigkeit: Industrie-Äthylalkohol			• Im Fachhandel erhältlich

5. TEILE UND ZEITABSTÄNDE FÜR ÜBERPRÜFUNG UND WARTUNG

Um den mechanischen Abschnitt immer in einem guten Betriebszustand zu erhalten, die nachstehende Überprüfung und Wartung in regelmäßigen Abständen durchführen. Nach einer Reparatur müssen die nachstehenden Wartungspunkte durchgeführt werden, unabhängig davon, wie lange der Benutzer das Gerät verwendet hat.

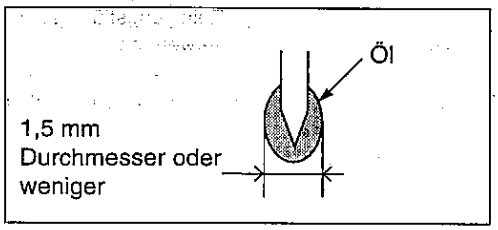
5-1. Liste der Punkte für Überprüfung und Wartung

	Stelle für Überprüfung und Wartung	Betriebsstunden (h)					Symptome, die auf erforderliche Wartung hinweisen	Anmerkungen
		500	1,000	1,500	2,000	3,000		
Bandlaufsystem	Bandlaufabschnitt (siehe Abschnitt 7-1)	□	□	□	□	□	• Blockiergeräusche • Verstopfung der Kopföffnung • Bandbeschädigung **Hinweis:** Die Trommeleinheit ersetzen, wenn die Kopföffnung nach der Reinigung des Videokopfes noch verstopft ist.	<Rollen> • Ersetzen, wenn die Drehung nicht normal ist oder die Rolle unrund ist. <Andere Teile als oben> • Den Abschnitt reinigen, der mit dem Band in Berührung kommt (insbesondere den Schrägspurabschnitt der unteren Trommel). Dafür die angegebene Reinigungsflüssigkeit verwenden.
	Trommelabschnitt, Videokopf (siehe Abschnitt 7-1)	□	□	□	□	□		
Antriebssystem	Steuerriemen	—	★	—	★	★	• Das Band läuft nicht. • Das Band wird lose. • Blockiergeräusche • Anormale Geräusche	• Ersetzen, wenn etwas nicht normal ist.
	Andruckrolle	□	□	□	□○	□		
	Tonwellenmotor	—	○	—	○	○		
	Schwenkarm Aufwickelspulenbasis	—	★○	—	★○	★○		
	Mittelradwelle Wiedergaberadwelle Schnellspulradwelle	—	△	—	△	△	• Anormale Geräusche	• Mit Öl schmieren [Öl] Cosmo Hydro HV22 **Hinweis:** Das Öl an die Welle geben, dann vorsichtig mit einem Tuch wischen.
	Spannarmwelle	—	△	—	△	△	• Bandbeschädigung • Anormales Wiedergabebild	
	Lademotor Modusschalter	—	★○	—	★○	★○	• Cassettenentnahme nicht möglich. • Schaltet nicht in einen Modus.	• Ersetzen, wenn etwas nicht normal ist(einschließlich Geräusche).
Leistungsprüfungen	Anormale Geräusche	★	★	★	★	★	• Das Band läuft nicht. • Das Band wird lose. • Bandbeschädigung • Das Wiedergabebild ist nicht normal.	• Teile, die nicht die Standardleistung erbringen, einsetzen.
	PB-VS/REW-Aufwickel-Drehmoment	—	★	—	★	★		
	PB-VS/REW-FF-REW-Laderückspannung	—	★	—	★	★		
	Kopfreiniger	—	○	—	○	○		

[Öl] Cosmo Hydro HV22
[Schmierfett] Moly Coat YM-103
[Schraubensicherungsmittel] Three Bond 1401B
[Reinigungsflüssigkeit] Industrie-Äthylalkohol
○ • • • Ersetzen. □ • • • Reinigen. △ • • • Schmieren. ★ • • • Prüfen.

5-2. Zur Beachtung

(1) Wenn ein Teil ersetzt wird, immer die entfernte Scheibe durch eine neue ersetzen.
(2) Dieser Mechanismus weist keine Steuerungseinstellung auf. Wenn die Steuerung nicht nach Erfordernis eingestellt werden kann, Teile reinigen und/oder einsetzen.
(3) Hinweis zum Öl
 a) Immer das vorgeschriebene Öl verwenden. (Durch Verwendung anderer Ölsorten können Probleme verursacht werden.)
 b) Zum Schmieren von Lagern immer sauberes Öl ohne Schmutzbeimischungen verwenden. (Durch verschmutztes Öl kann das Lager verschleißen oder festklemmen.)
 c) Ein Tropfen Öl ist die in der nachstehenden Abbildung dargestellte Menge ôl an der Spitze einer Nadel.



(4) Bei der Durchführung der Reparatur von Schaltkreisen, Bandlaufeinstellung usw. muß die Cassettensteuereinheit am Mechanismus angebracht sein.
(5) Um nur den mechanischen Abschnitt in Betrieb zu setzen, Spannung an den Lademotor anlegen, so daß er läuft. Die Spannung an den Klemmen muß 3 V Gleichstrom oder weniger betragen. (Wenn die Räder zwangsweise mit der Hand gedreht werden, besteht die Gefahr einer Beschädigung.)
(6) Zum Installieren der Cassettensteuerung auf den Abschnitt A in der nachstehenden Abbildung drücken. Nicht auf andere Teile drücken.
(7) Keine der mechanischen Teile verbiegen.

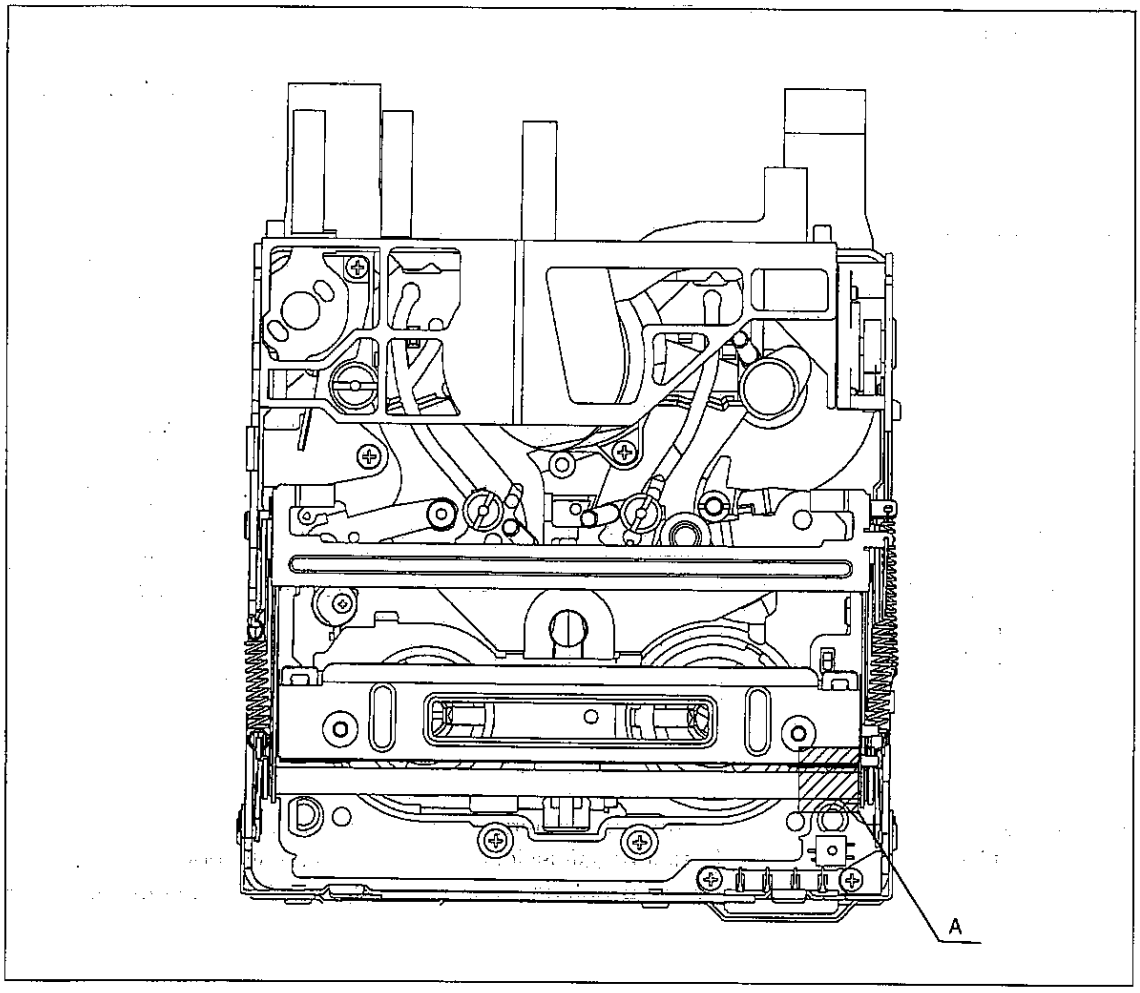


Abb. 1.

6. MECHANISCHE EINSTELLUNGEN UND ÜBERPRÜFUNGEN

Die hier diskutierten Punkte beziehen sich auf allgemeine Wartung vor Ort. Einstellungen und Überprüfungen, die komplizierte Einrichtungen, Hilfsvorrichtungen und Technologie erfordern, werden nicht behandelt.
Zur Erhaltung der Leistungsmerkmale des neuen Geräts sind nicht nur Überprüfungen und Einstellungen erforderlich, sondern es ist auch unbedingt erforderlich, daß beispielsweise das Band nicht beschädigt ist. Für Einstellungen müssen immer die erforderlichen Hilfsvorrichtungen verwendet werden.

<Zur Beachtung>

(1) Die Spannungsversorgung und den Zustand des Geräts immer wie folgt für Einstellungen und Überprüfungen vorsehen.

Netzadapter verwendet, Cassettensteuerung-Baugruppe zusammengebaut

- 6-1 Überprüfung des Aufwickel-Drehmoments während der Wiedergabe (Aufnahme)
- 6-2 Überprüfung und Einstellung des Rückspannungs-Drehmoments während der Wiedergabe (Aufnahme)

Netzadapter verwendet, ohne Cassettensteuerung-Baugruppe (unabhängiger Mechanismus)

- 6-3 Überprüfung des Aufwickel-Drehmoments der Rückwärtssuche (VS-REW)

V Gleichstrom, ohne Cassettensteuerung-Baugruppe (unabhängiger Mechanismus)

- 6-4 Überprüfung der Spulenbasishöhe
- 6-5 Überprüfung der Spannstiftposition
- 6-6 Überprüfung der Schnellvorlauf-Rückspannung
- 6-7 Überprüfung der Schnellrücklauf-Rückspannung
- 6-8 Überprüfung der Laderückspannung
- 6-9 Überprüfung der Andruck-Einrastkraft

(2) Wenn Überprüfungen mit 3 V Gleichstrom Spannungsversorgung und unabhängigem Mechanismus durchgeführt werden, den flexiblen Lademotor-Schaltkreis vom Steckverbinder abtrennen.

(3) Das Band immer mit angeschlossener Cassettensteuerung-Baugruppe laufen lassen.

6-1. Überprüfung des Aufwickel-Drehmoments während der Wiedergabe (Aufnahme)

(1) Die Drehmoment-Cassette mit vorhandener Cassettensteuerung-Baugruppe einlegen, auf Aufnahme schalten (Wiedergabe, falls bereits ein Signal auf der Cassette aufgenommen wurde), und überprüfen, ob das Drehmoment an der Aufwickelseite dem Sollwert entspricht.

Sollwert für Aufwickel-Drehmoment während Aufnahme (Wiedergabe)

0,65 ± 0,35 mNm (6,5 ± 3,5 gfcm)
Welligkeit 0,2 mNm (2 gfcm) oder weniger

(Wenn Drehmoment-Welligkeit vorhanden ist, den Mittelwert ablesen.)

6-2. Überprüfung und Einstellung des Rückspannungs-Drehmoments während der Wiedergabe (Aufnahme)

(1) Überprüfungen
Bei angebrachter Cassettensteuerung-Baugruppe die Drehmoment-Cassette und dann im Aufnahmemodus (Wiedergabe, falls bereits ein Signal auf der Cassette aufgenommen wurde) überprüfen, ob das Drehmoment an der Abwickelseite dem Sollwert entspricht.

Sollwert für Drehmoment 0,65 ± 0,23 mNm (6,5 ± 2,3 gfcm)
(Wenn Drehmoment-Welligkeit vorhanden ist, den Mittelwert ablesen.)

(2) Einstellung
Wenn das Drehmoment nicht dem Standard entspricht, die Anbringposition der Spannungsfeder ändern, siehe Abb. 5.
Wenn das Rückspannungs-Drehmoment zu hoch ist, die Anbringposition der Feder in Richtung A versetzen.
Wenn das Rückspannungs-Drehmoment zu niedrig ist, die Anbringposition der Feder in Richtung B versetzen.

<Zur Beachtung>

Nach der Einstellung des Rückspannungs-Drehmoments immer die Position des Spannstifts prüfen.

6-3. Überprüfung des Aufwickel-Drehmoments der Rückwärtssuche (VS-REW)

(1) Die Cassettensteuerung-Baugruppe entfernen, dann gemäß 8-3 (3) bis (5) ein Stück Pappe zwischen dem DOWN-Schalter und dem Aufwickelsperre-Freigabehebel einfügen, das Gerät im Testmodus (T01) laufen lassen und das System in die Rückwärtssuche-Modi (VS-REW) schalten.

(2) Einen Drehmomentmesser auf die Abwickelspulenbasis setzen und die Spitze des Spannstifts mit dem Finger in die Richtung von Pfeil A bewegen. Bei freigegebenem Spannstift prüfen, ob das Aufwickel-Drehmoment dem Sollwert entspricht. (Messen, ohne den Drehmomentmesser zu drehen.)

Sollwert für Aufwickel-Drehmoment für Rückwärtssuche (VS-REW)

2,0 ± 0,6 mNm (20 ± 6 gfcm)
Welligkeit 0,4 mNm (4 gfcm) oder weniger

(Wenn Drehmoment-Welligkeit vorhanden ist, den Mittelwert ablesen.)

(3) After checking the takeup torque, remove the torque gauge, then remove the thick paper (refer to 8-3) that was inserted in (1). The system will automatically go into standby mode. (Absolutely do not press the EJECT lever on the VCR frame. There is danger that doing so will deform the lever and cams.)

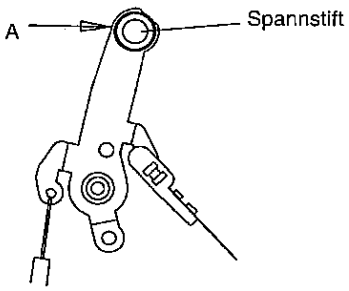


Abb. 2. Freigeben des Spannungsbands beim Messen des Aufwickel-Drehmoments für Rückwärtssuche (VS-REW)

6-4. Überprüfung der Spulenbasishöhe

(1) Die Cassettensteuerung-Baugruppe entfernen (siehe 8-2).

(2) 3 V Gleichstrom an den Lademotor anlegen, siehe 8-1, und das System auf Schnellvorlauf (Schnellrücklauf) schalten.

(3) Darauf achten, daß das Hauptplanstück nicht die Trommel, sich bewegende Teile (Führungsrolle usw.) oder die MIC-Kontakte berührt. Die Öffnungen im Hauptplanstück auf die 2 Führungen (A und B) in Abb. 3 setzen.

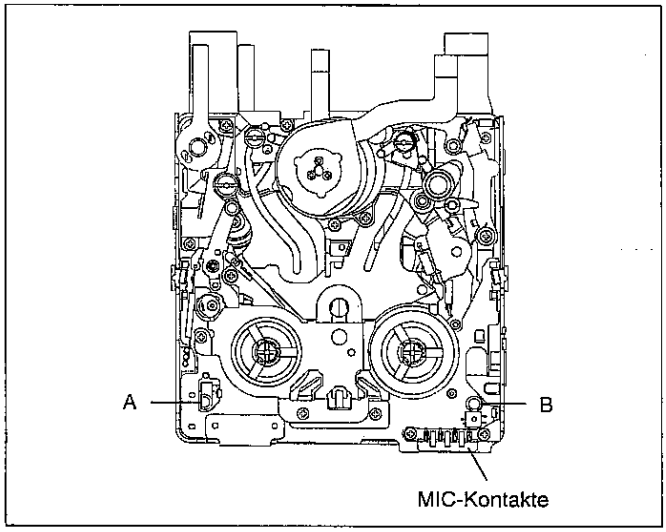


Abb. 3.

(4) Prüfen, ob die Höhen der Spulenempfangsfläche der Abwickelspulenbasis und die Spulenempfangsfläche der Aufwickelspulenbasis unter der Oberfläche des Hauptplanstücks den Einstellwerten entsprechen. Dafür beispielsweise eine Schieblehre verwenden. (Abb. 4)

(5) Wenn diese Höhen nicht den Einstellwerten entsprechen, die Spulenkappe mit einem Höheneinstellung-Schraubendreher drehen, bis sie den Einstellwerten entsprechen.

Hinweis: Nach der Einstellung prüfen, ob die Spulenbasen sich gutgängig drehen. (Zum Überprüfen der Aufwickelspulenbasis den Abwärtsschalter und den Aufwickelsperre-Freigabehebel lösen, siehe 8-3 (3) bis (5).)

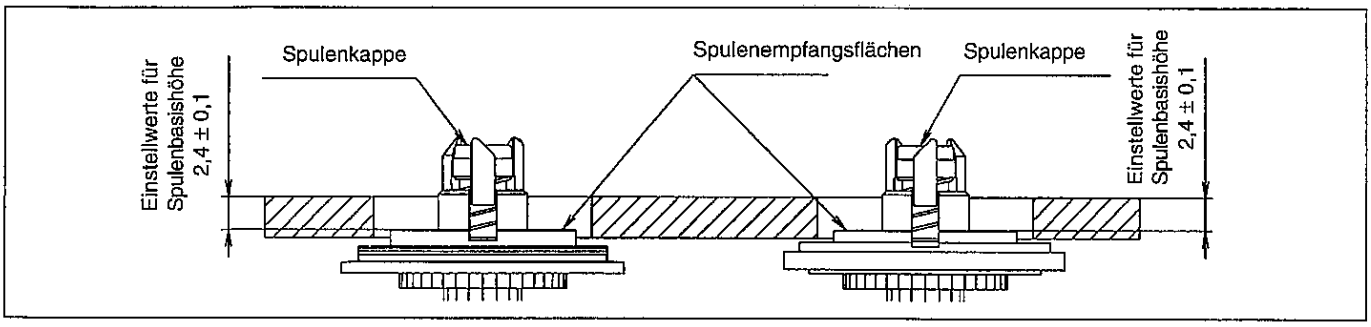


Abb. 4.

6-5. Überprüfung der Spannstiftposition

(1) Die Cassettensteuerung-Baugruppe entfernen, 3 V Gleichstrom an den Lademotor anlegen und das System in den Wiedergabemodus schalten (ohne Cassette).
Überprüfen, ob der Spannstift $8{,}5^{0}_{-0{,}5}$ mm von der Innenwand des Hauptchassis entfernt ist, siehe Abb. 5.

(2) Falls er sich nicht an der angegebenen Position befindet, die Einstellung durch Drehen des exzentrischen Stifts durchführen.
Befindet sich der Spannstift zu weit außen, den exzentrischen Stift im Uhrzeigersinn drehen.
Befindet sich der Spannstift zu weit zur Mitte des Mechanismus hin, den exzentrischen Stift entgegen dem Uhrzeigersinn drehen.

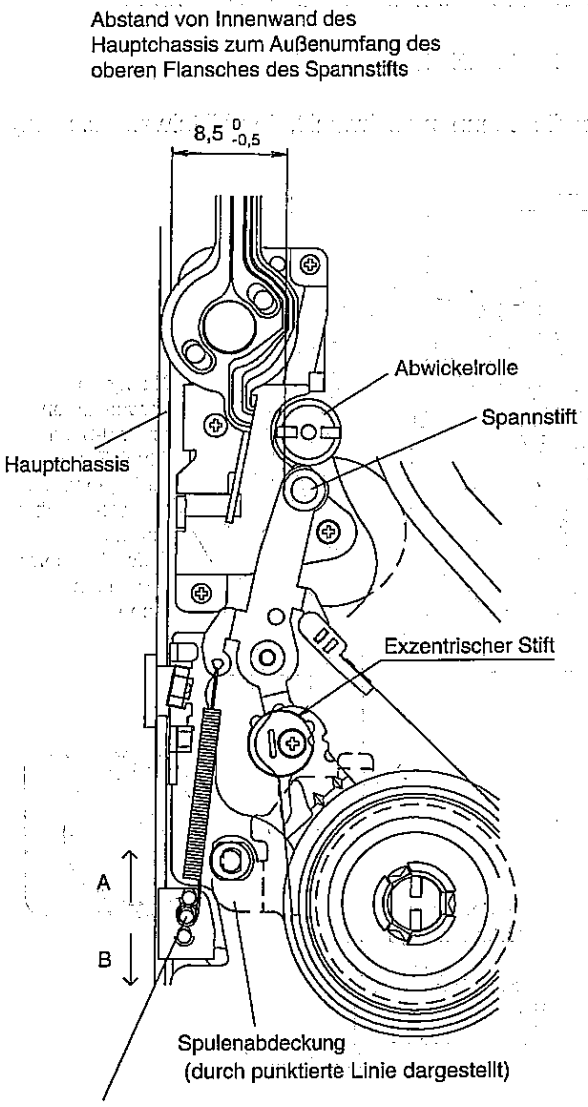


Abb. 5.

6-6. Überprüfung der Schnellvorlauf-Rückspannung

(1) Die Cassettensteuerung-Baugruppe entfernen, 3 V Gleichstrom an den Lademotor anlegen und das System in den Schnellvorlaufmodus schalten (siehe 8-1).
(2) Den Mechanismus umdrehen und den Schwenkarm mit beispielsweise der Spitze eines Schraubendrehers zur Seite der Aufwickelspulenbasis bewegen (siehe Abb. 7).
(3) Eine Spulennabe für Rückspannungsmessung auf die Abwickelspulenbasis setzen.
(4) Mit einem Spannungsmesser die Schnur in Richtung A ziehen und prüfen, ob die Spannung dem Sollwert entspricht.

Sollwert für Schnellvorlauf-Rückspannung

17 ± 12 mN ($1{,}7 \pm 1{,}2$ gf)

(Wenn die Spannung schwankt, den Mittelwert ablesen.)

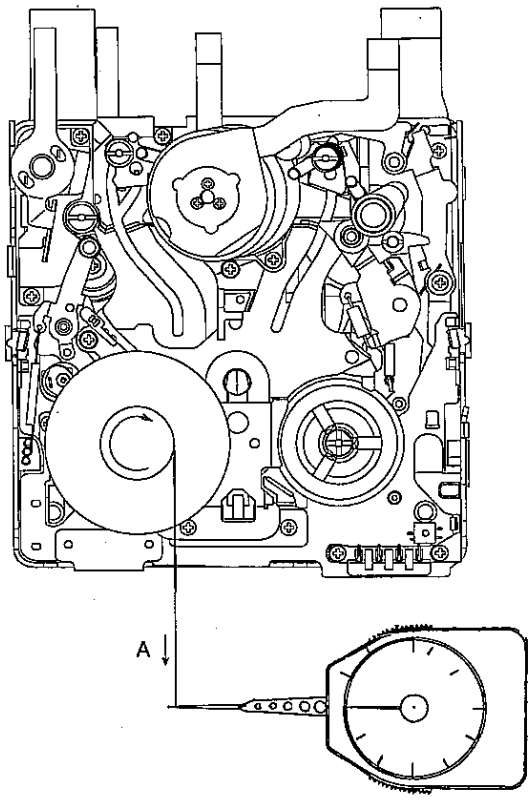


Abb. 6. Messen der Schnellvorlauf-Rückspannung

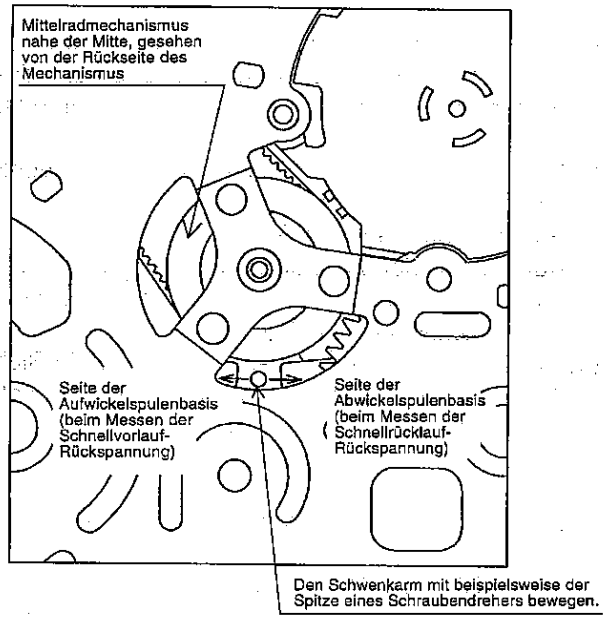

Mittelradmechanismus nahe der Mitte, gesehen von der Rückseite des Mechanismus
Seite der Aufwickelspulenbasis (beim Messen der Schnellvorlauf-Rückspannung)
Seite der Abwickelspulenbasis (beim Messen der Schnellrücklauf-Rückspannung)
Den Schwenkarm mit beispielsweise der Spitze eines Schraubendrehers bewegen.

Abb. 7. Position der Schwenkarmwelle (gesehen von der Rückseite des Mechanismus) beim Messen der Schnellvorlauf- und Schnellrücklauf-Rückspannung

6-7. Überprüfung der Schnellrücklauf-Rückspannung

(1) Die Cassettensteuerung-Baugruppe entfernen, 3 V Gleichstrom an den Lademotor anlegen und das System in den Schnellrücklaufmodus schalten (siehe 8-1).
(2) Nach den Anweisungen unter 8-3 (3) bis (5) ein Stück Pappe einfügen und den DOWN-Schalter und den Aufwickelsperre-Freigabehebel lösen.
(3)
(4) Eine Spulennabe für Rückspannungsmessung auf die Aufwickelspulenbasis setzen.
(5) Mit einem Spannungsmesser die Schnur in Richtung A ziehen und prüfen, ob die Spannung dem Sollwert entspricht.
(6) Das Papier entfernen, das in Schritt (2) eingefügt wurde.

Sollwert für Schnellrücklauf-Rückspannung

17 ± 12 mN (1,7 ± 1,2 gf)

(Wenn die Spannung schwankt, den Mittelwert ablesen.)

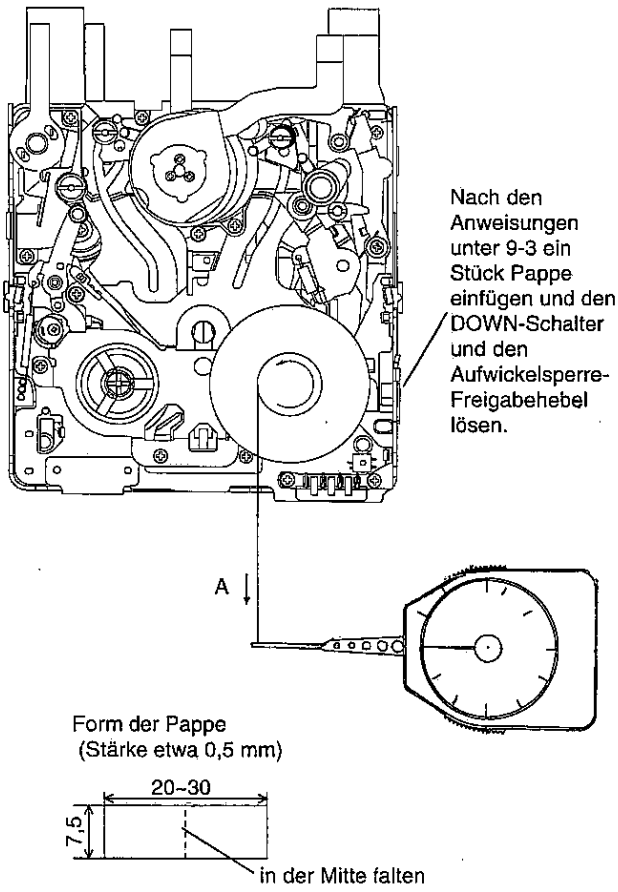

Nach den Anweisungen unter 9-3 ein Stück Pappe einfügen und den DOWN-Schalter und den Aufwickelsperre-Freigabehebel lösen.
A
Form der Pappe
(Stärke etwa 0,5 mm)
20~30
7,5
in der Mitte falten

Fig. 8. Messen der Schnellrücklauf- und Lade-Rückspannung

6-8. Überprüfung der Laderückspannung

(1)Die Cassettensteuerung-Baugruppe entfernen, 3 V Gleichstrom an den Lademotor anlegen und das System in den Bereitschaftsmodus schalten (siehe 8-1).
(2)Nach den Anweisungen unter 8-3 (3) bis (5) ein Stück Pappe einfügen und den DOWN-Schalter und den Aufwickelsperre-Freigabehebel lösen.
(3)Den Mechanismus umdrehen und den Schwenkarm mit beispielsweise der Spitze eines Schraubendrehers zur Seite der Abwickelspulenbasis bewegen (siehe Abb. 7).
(4)Eine Spulennabe für Rückspannungsmessung auf die Aufwickelspulenbasis setzen.
(5)Mit einem Spannungsmesser die Schnur in Richtung A ziehen und prüfen, ob die Spannung dem Sollwert entspricht. (Wenn die Spannung schwankt, den Mittelwert ablesen.)
(6)Das Papier entfernen, das in Schritt (2) eingefügt wurde.

Sollwert für Laderückspannung

40 ± 30 mN (4 ± 3 gf)

6-9. Überprüfung der Andruck-Einrastkraft

(1)Die Cassettensteuerung-Baugruppe entfernen.
(2)Die Schnur zur Messung der Andruckrollen-Einrastkraft an die Andruckrolle befestigen.
(3)3 V Gleichstrom an den Lademotor anlegen und das System in den Wiedergabemodus schalten, dann die Andruckrolle auf die Tonwelle einrasten lassen.
(4)Einen Spannungsmesser in Schnur zur Messung der Andruckrollen-Einrastkraft einhaken und die Schnur, wie in Abb. 9 gezeigt, in die Richtung der Lichtführung ziehen, um die Andruckrolle langsam von der Tonwelle zu entfernen.
(5)Wenn sich die Andruckrolle von der Tonwelle gelöst hat, den Wert des Spannungsmessers ablesen.

<Sollwert>

2,2 ± 0,6 N (220 ± 60 gf)

<Zur Beachtung>

Nach Durchführung dieser Messung den Wiedergabemodus schnell ausschalten, um die Andruckrolle von der Tonwelle zu entfernen. (Wenn die Andruckrolle längere Zeit an der Tonwelle sitzt, wird die Andruckrolle verformt.)

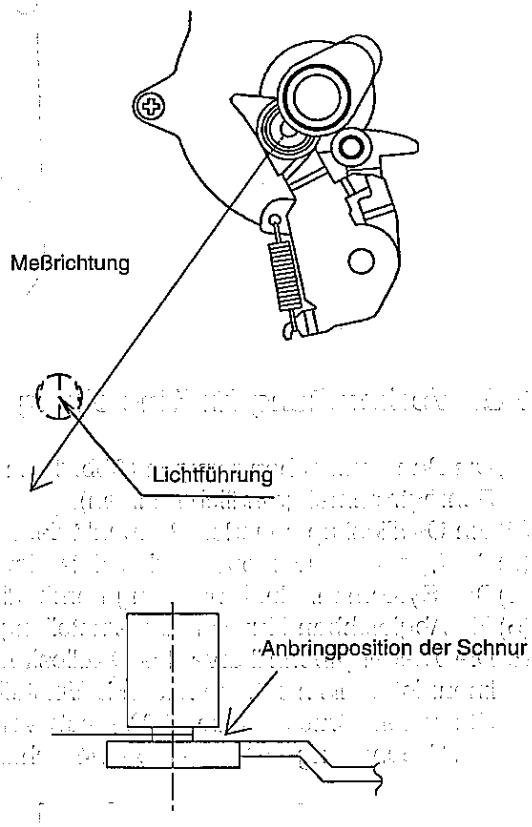
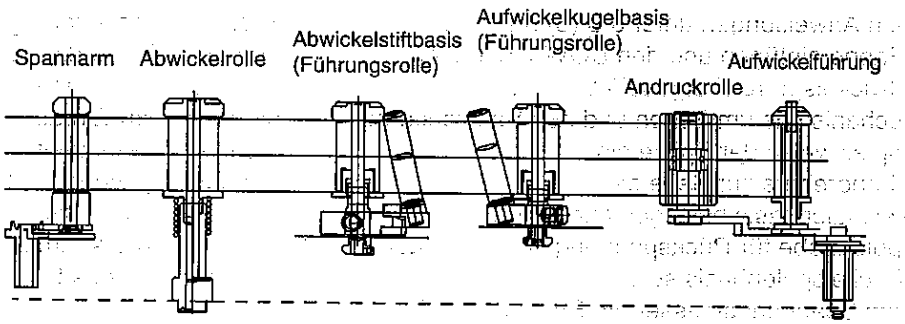


Abb. 9.

7. BANDLAUFEINSTELLUNG

Bei der Bandlaufeinstellung muß die Cassettensteuerung-Baugruppe immer am mechanischen Abschnitt angebracht sein.

7-1. Einstellpositionen



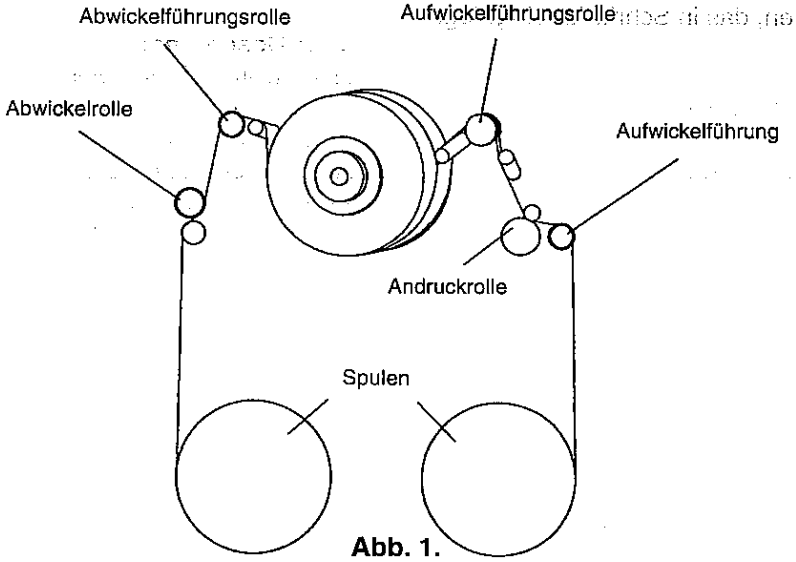
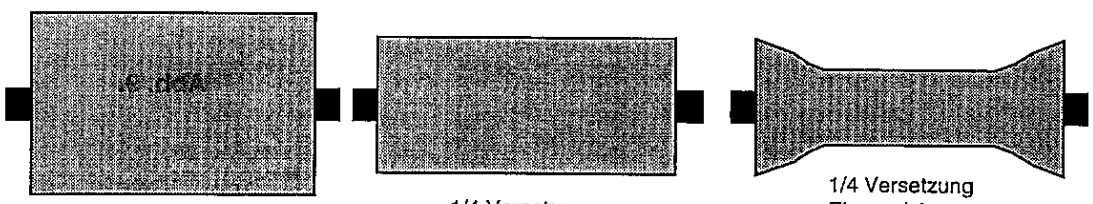


Abb. 1.

7-2. Vorbereitung für Einstellung

(1) Die Bandlaufflächen reinigen (Abb. 1) (insbesondere die Trommelfläche und die Oberfläche der unteren Schrägtrommel gründlich reinigen).
(2) Ein Oszilloskop an jeden Prüfpunkt der Relais-Schaltkreisplatine anschließen.
(3) Die Spannungsversorgung des Netzadapters einschalten.
(4) Das System mit der Einstellung-Fernbedienung in den TEST-Modus T05 schalten.
(5) Ein Abgleichband für Bandlaufeinstellung laufen lassen.
(6) Die Wiedergabehüllkurve des Oszilloskops prüfen und dann bei +1/4 und -1/4 Versetzung prüfen, ob die Kurve linear ist. Falls nicht, die folgende Einstellung durchführen, so daß sie linear wird.
(Bei jedem Druck auf die PLAY-Taste verändert sich der Schaltmechanismus:
+ 1/4 Schaltung → Normal → - 1/4 Schaltung → ; in dieser Reihenfolge.)



normal

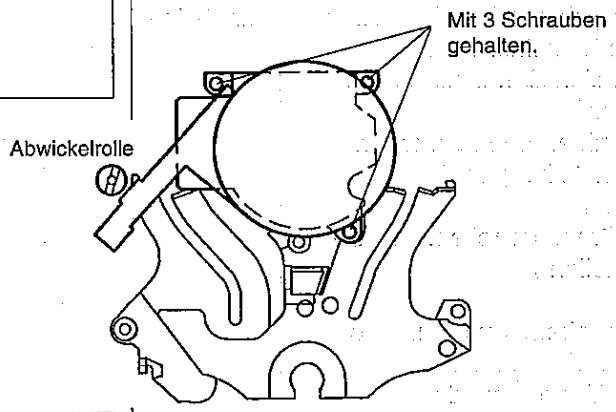
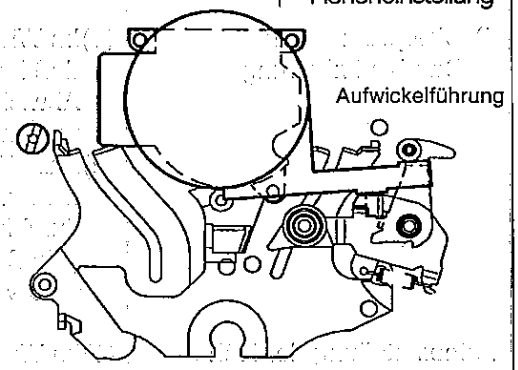
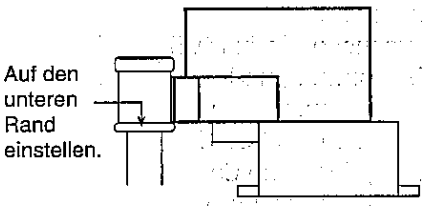
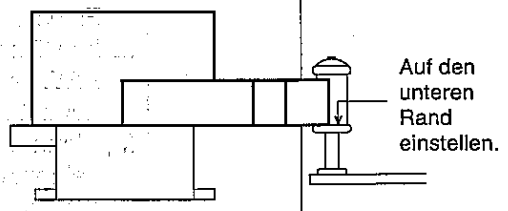
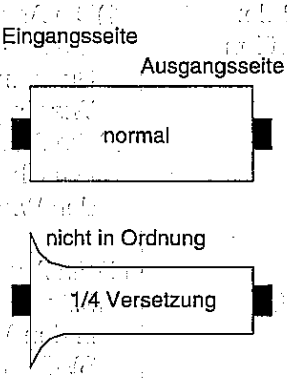
1/4 Versetzung
normal

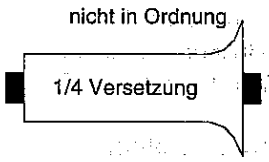
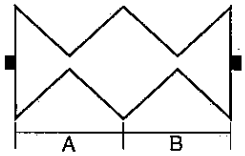
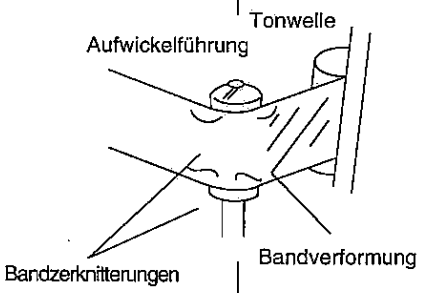
1/4 Versetzung
Ein- und Ausgang
nicht in Ordnung

7-3. Auszuführende Schritte

(1)Überprüfung und Einstellung der Abwickelrolle und der Höhe der Aufwickelführung
(2)Einstellung der Höhe der Abwickel-/Aufwickelführungsrolle
(3)Überprüfung der Hüllkurven-Wellenform für Rückwärtssuche (VS-REW)
(4)Überprüfung auf Bandzerknitterung
(5)Überprüfung des Hüllkurvenanstiegs
(6)Überprüfung der Wiedergabe-SWP

<Überprüfungen und Einstellungen>

Überprüfungen und Einstellungen	Methode	Einstellwerte und Hinweise	Meßinstrumente und Hilfsvorrichtungen
1) Höhe der Abwickelrolle/ Aufwickelführung **Hinweis)** Die Einstellung 1) nur durchführen, wenn das Teil selbst ersetzt wird. Wenn andere Teile ersetzt werden, nur die Feineinstellung 4) durchführen.	(1)Mit einer Hilfsvorrichtung zur Höheneinstellung prüfen, ob die Höhen der einzelnen Teilen den Voreinstellpositionen entsprechen. Falls Sie nicht in Ordnung sind, so einstellen, daß sie der Hilfsvorrichtung entsprechen.  **Abb. 2.**	Einstellwerte  **Fig. 3.**	• Oszilloskop • Hilfsvorrichtung für Höheneinstellung • Schraubendreher für Höheneinstellung
Zur Durchführung der Einstellung der Aufwickelführung eine Spannung von 3 V an den Lademotor anlegen und dann die Aufwickelführung zur Position in Abb. 3 herausziehen.	 	 	
2) Höhe der Abwickelführungsrolle	(1)Die Sicherungsschraube der Führungsrolle lösen und dann etwas anziehen, so daß die Rolle sich einfach dreht. (2)Ein Abgleichband wiedergeben und die Abwickelführungsrolle so einstellen, daß die Eingangsseite der Hüllkurve linear ist. (3)Eine 1/4 Versetzung durchführen und dann wie im obigen Fall einstellen, so daß die Hüllkurve linear wird. (4)Die Sicherungsschraube der Abwickelführungsrolle anziehen.	Einstellwerte  	• Oszilloskop • Einstellung-Fernbedienung • Schraubendreher für Höheneinstellung • Abgleichband

Überprüfungen und Einstellungen	Methode	Einstellwerte und Hinweise	Meßinstrumente und Hilfsvorrichtungen
Feineinstellung der Höhe der Abwickelrolle	(1)Die Höhe der Führungsrolle wie bei der Abwickelseite so einstellen, daß die Hüllkurve linear wird.	Einstellwerte  	
3) Überprüfung der Hüllkurven-Wellenform für Rückwärtssuche (VS-REW)	(1)Überprüfen, ob die Spitzen der Hüllkurven-Wellenform bei der Rückwärtssuche (VS-REW) gleichmäßig sind. (2)Wenn sie nicht gleichmäßig sind, die Führungsrolle und die Aufwickelführung einstellen.	Einstellwerte  So einstellen, daß A ≒ B wird.	• Oszilloskop • Schraubendreher für Höheneinstellung • Abgleichband
4) Überprüfung auf Bandzerknitterung	(1)Im Wiedergabemodus überprüfen, daß keine Zerknitterung im Abwickelrollen-Bandlaufabschnitt vorkommen. (2)Falls Zerknitterungen vorkommen, die Feineinstellung der Höhe durchführen. (Die Bandtransportrolle nicht über ± 45°verstellen.)	Einstellwerte	•Schraubendreher für Höheneinstellung • Abgleichband • Schrauben-sicherungsmittel
Feineinstellung der Höhe der Aufwickelführung	(1)Im Wiedergabemodus prüfen, ob das Band zwischen der Aufwickelführung und der Andruckrolle verformt wird und ob das Band am oberen oder unteren Flansch zerknittert. (2)Im Rückwärtssuche-Modus (VS-REW) auf Verformung und Zerknitterung prüfen, wie oben. (3)Wenn das Band zerknittert, die Feineinstellung der Höhe der Aufwickelführung durchführen. (4)Schraubensicherungsmittel auf den oberen Flansch der Aufwickelführung auftragen.	 	
5) Die Anstiegszeit der Hüllkurve überprüfen.	(1)Die Anstiegszeit der Hüllkurve überprüfen, wenn von der Rücklauf-Suchfunktion in den Wiedergabemodus geschaltet wird. (2)Die Anstiegszeit der Hüllkurve beim Umschalten vom Stoppmodus in den Wiedergabemodus prüfen.	Einstellwert: Innerhalb von 5 sec.	
6) Überprüfung der Wiedergabe-SWP	(1)Ein Abgleichband wiedergeben. (2)Mit der Einstellung-Fernbedienung in den Modus für automatische SWP-Einstellung schalten.		• Abgleichband

8. MECHANISCHER ABSCHNITT UND ERSETZEN VON TEILEN (ZERLEGUNG UND ZUSAMMENBAU)

In diesem Abschnitt werden die Zerlegung und der Zusammenbau des mechanischen Abschnitts erläutert. Zum Abnehmen des Gehäuses usw. siehe unter **3. ZERLEGEN DES GERÄTS.**

<Zur Beachtung>

1. Entfernte Scheiben, beispielsweise beim Auswechseln von Teilen, immer durch neue ersetzen.
2. Wenn der mechanische Abschnitt umgedreht wird, ihn nicht auf einen Tisch oder dergleichen legen. Durch Verformung und Kratzer der mechanischen Teile können Probleme verursacht werden.
3. Beim Wiederzusammenbau sorgfältig darauf achten, daß keine Schrauben, Scheiben oder Fremdkörper in das Gerät gelangen, weil dadurch mechanische Fehlfunktionen verursacht werden können.
4. Die Reinigungsflüssigkeit, das Öl, das Schmierfett und das Schraubensicherungsmittel verwenden, die unten angegeben sind. Durch die Verwendung anderer Arten können mechanische Fehlfunktionen verursacht werden.

Öl: Cosmo Petroleum: Cosmo Hydro HV22
Schmierfett: Dow Corning: Moly Coat YM-103
Schraubensicherungsmittel: Three Bond: 1401B
Reinigungsflüssigkeit: Industrie-Äthylalkohol

8-1. Hinweise zu den mechanischen Modi

Zum Betrieb des Mechanismus 3 V Gleichstrom an den Lademotor anlegen.
Dafür den flexiblen Lademotor-Schaltkreis vom Steckverbinder abtrennen.

(1)Auswurfmodus

In der mechanischen Position, in der eine Cassette ausgeworfen wird, bewegt sich der EJECT-Hebel, der im Bereitschaftsmodus nicht durch das Kerbfenster unten rechts im Chassis sichtbar ist, zu einer Position, in der er in diesem Modus sichtbar ist.

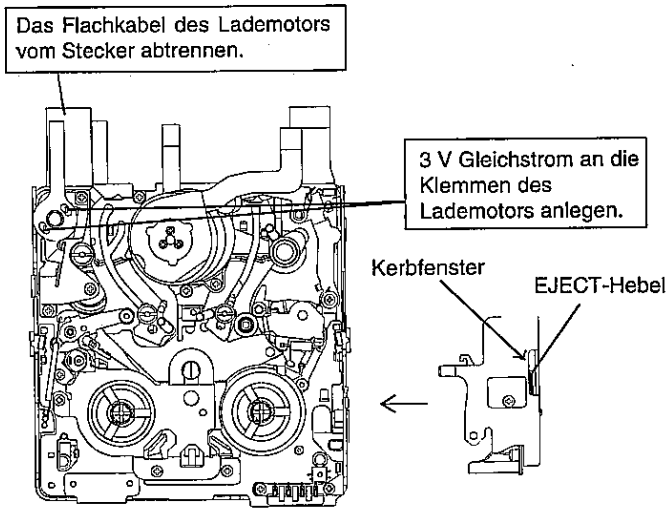

Das Flachkabel des Lademotors vom Stecker abtrennen.
3 V Gleichstrom an die Klemmen des Lademotors anlegen.
Kerbfenster
EJECT-Hebel

Schaubild für Auswurfmodus

2) Bereitschaftsmodus

In der mechanischen Position, in der eine Cassette geladen ist, wird der EJECT-Hebel, der im Auswurfmodus in einer Position war, in der er durch das Kerbfenster unten rechts im Chassis sichtbar war, in diesem Modus nicht mehr sichtbar, so daß er gesperrt werden kann, wenn die Cassettensteuerung-Baugruppe nach unten bewegt wird.

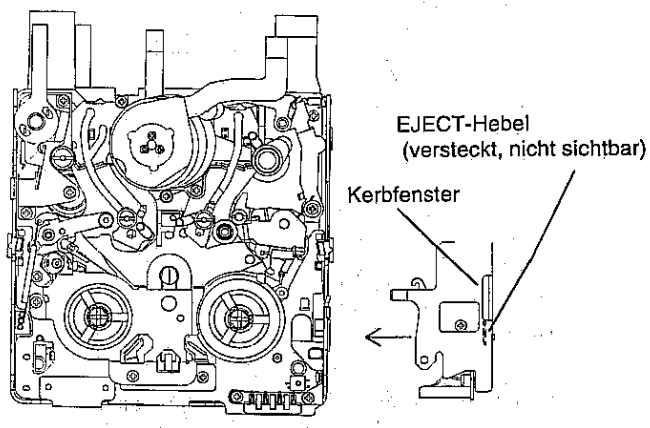


Schaubild für Bereitschaftsmodus

(3)Mittelstellungsmodus

Dies ist der Modus, in dem ein Band um die Aufwickelspule gewickelt wird, wenn eine Cassette mit sichtbarem Spulstart-Vorspannband eingelegt wird.

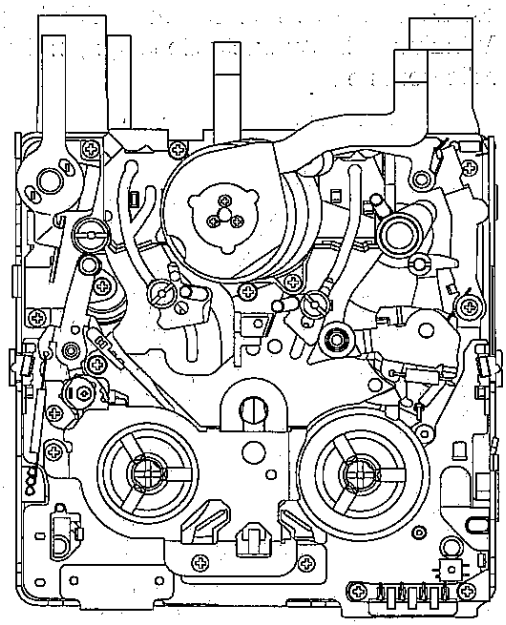


Schaubild für Mittelstellungsmodus

(4) Stoppmodus
Das System ist in der Stopposition (Aufnahmeverriegelung im Kameramodus), die Abwickel- und Aufwickel-Stiftbasen sind gegen die Trommelbasis gerastet, die Abwickelbremse steht in Kontakt mit der Abwickelspulenbasis, und die Aufwickelbremse steht in Kontakt mit der Aufwickelspulenbasis.

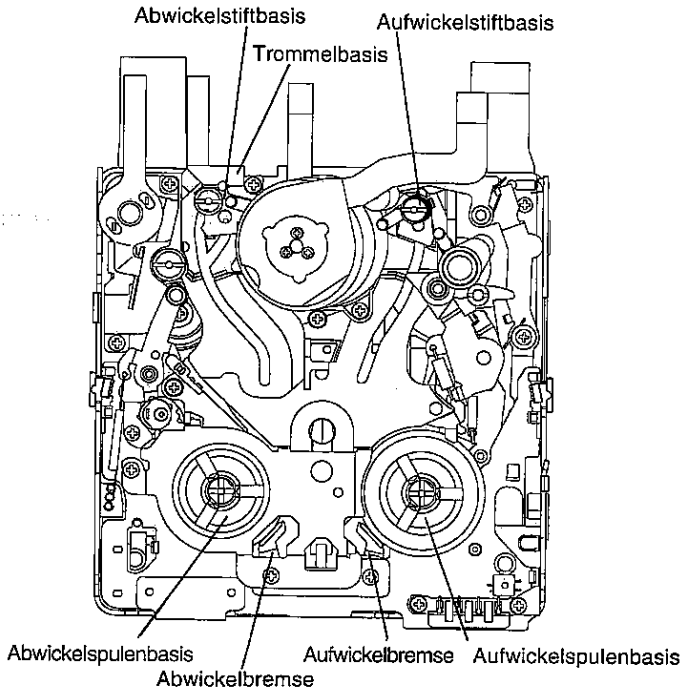


Schaubild für Stoppmodus

(5) Wiedergabemodus (Aufnahmemodus)
Dies ist die mechanische Position für Wiedergabe und Aufnahme, die Andruckrolle ist gegen die Tonwelle gerastet.

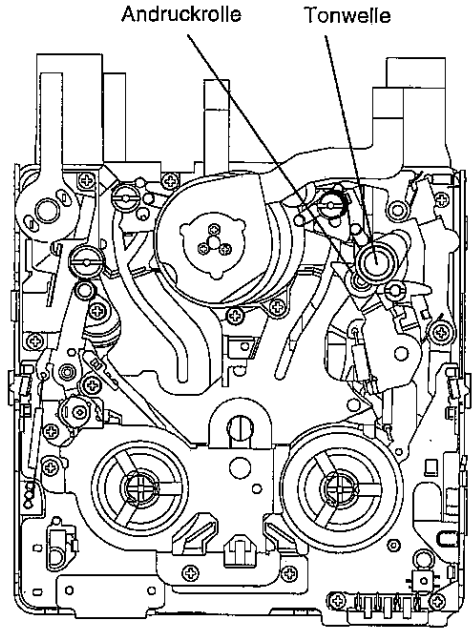


Schaubild für Wiedergabemodus (Aufnahmemodus)

(6) Schnellvorlauf-Modus (Schnellrücklauf-Modus)
Dies ist die mechanische Position für Schnellvorlauf und Schnellrücklauf. Im Vergleich zum Stoppmodus drehen sich die exzentrischen Stifte entgegen dem Uhrzeigersinn und sind auf der Welle der Abwickelspulenbasis zentriert.

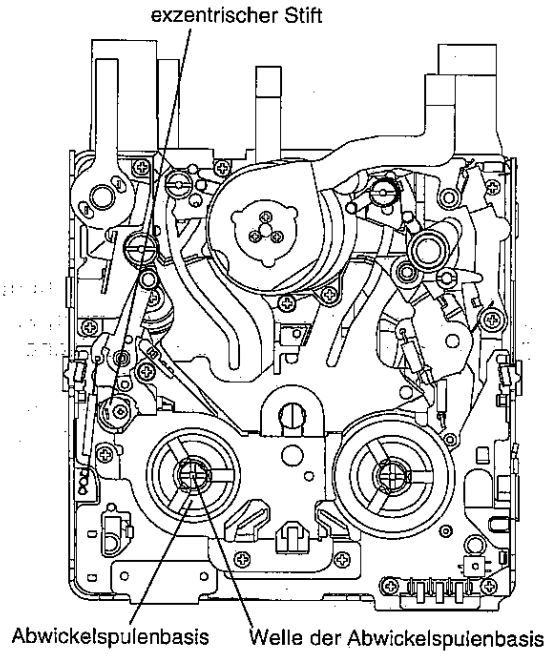


Schaubild für Schnellvorlauf-Modus (Schnellrücklauf-Modus)

8-2. Cassettensteuerung-Baugruppe

Cassettensteuerung-Baugruppe (siehe Abb. 2)

<Ausbau>

(1) Die Abdeckung der Cassettensteuerung entfernen.

(2) Den EJECT-Hebel auf dem Videorecorder-Rahmen betätigen, um die Cassettensteuerung nach oben zu bringen. Oder im Bereitschaftsmodus den Sperrhebel in die Richtung des Pfeils drücken, um die Cassettensteuerung nach oben zu bringen. (Siehe Abb. 1, Richtung (a) oder Richtung (b)) (Wenn in Richtung (a) gedrückt wird, die Cassettensteuerung leicht mit der Hand anheben, um sie zu lösen.)

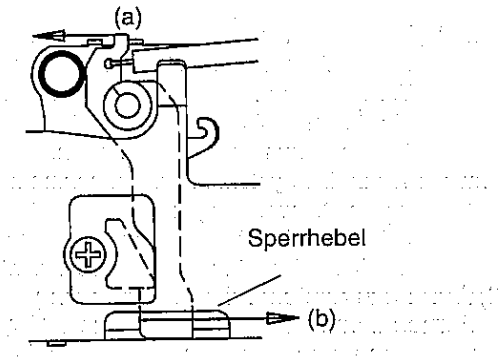


Abb. 1 Sperrhebel

(3) Die Trommelabdeckung entfernen.

(4) Die vier Schrauben (c) entfernen, dann die Abwärtsführung (d) entfernen.

(5) Die Schraube (e) entfernen, dann den Dämpfer (f) verschieben, um ihn zu entfernen, anschließend die Hilfsfeder (g) vom Hauptchassis entfernen.

(6) Die Außenringwellen der Cassettensteuerung (2 Stellen (h)) aus den Rillen des Hauptchassis (2 Stellen (i)) entfernen und auf Abschnitt (j) (durch schräge Linien dargestellt) absetzen.

(7) Die Cassettensteuerung in der unteren Position halten und die Welle des inneren Arms (k) zur Rückseite der Rille des Hauptchassis (runde Öffnung (l)) schieben. (Dabei darauf achten, daß der Dämpferhebel (m) nicht an der AHC-Freigabefeder hängenbleibt.)

(8) Die Welle des inneren Arms (k) geringfügig zur Innenseite hin biegen und sie dabei aus der Rille des Hauptchassis lösen. (Dabei darauf achten, den inneren Arm nicht zu verbiegen.)

<Anbringung>

(1) Das System in den Bereitschaftsmodus schalten (siehe 8-1 (2)).

(2) Die Welle des inneren Arms (k) in die Rille des Hauptchassis (l) einsetzen (wie beim Ausbau darauf achten, den inneren Arm nicht zu verbiegen).

(3) Die Welle des äußeren Gestänges (h) auf den Abschnitt (j) des Hauptchassis setzen und dann, während langsam auf die Cassettensteuerung von oben gedrückt wird, die Welle (h) nach vorne schieben und sie in den Abschnitt (i) des Hauptchassis einhaken.

(4) Die Hilfsfeder (g) und den Dämpfer (f) anbringen. Anzugsmoment 70 ± 7 mNm (0,7 ± 0,07 kgcm)

(5) Die Abwärtsführung anbringen. (Beim Anziehen der Schraube auf Abschnitt (n) drücken.) Anzugsmoment 40 ± 4 mNm (0,4 ± 0,04 kgcm)

(6) Die Trommelabdeckung und die Abdeckung der Cassettensteuerung anbringen.

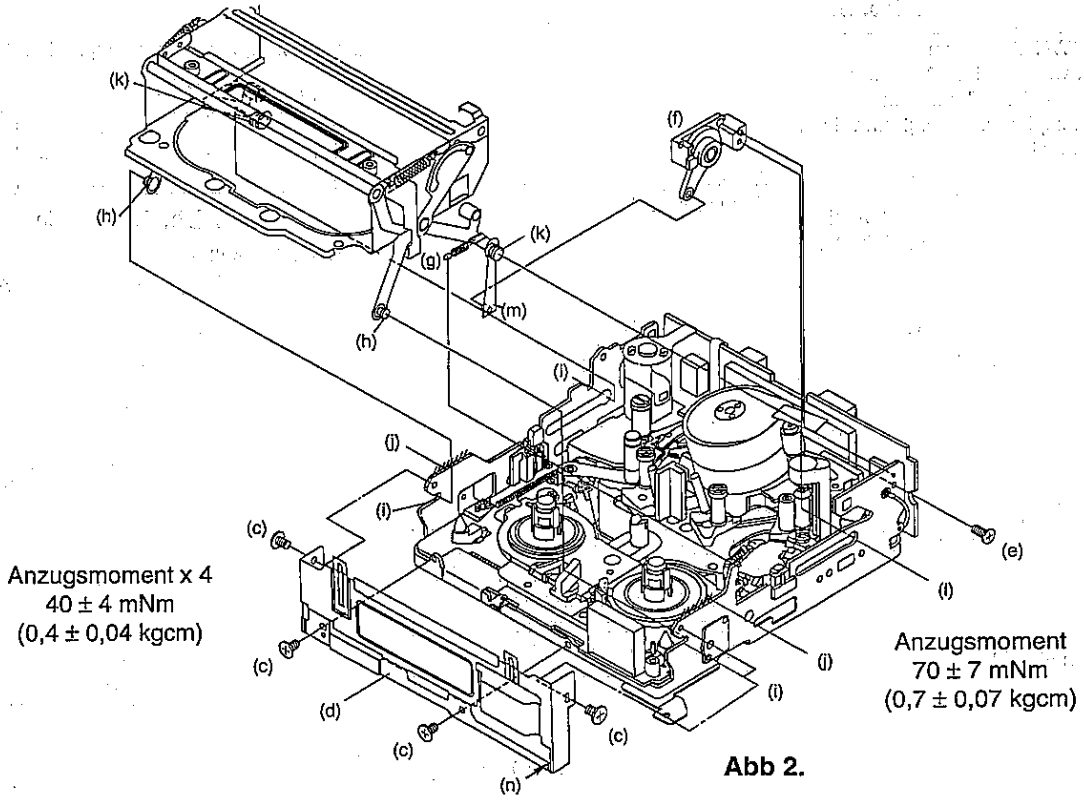


Abb 2.

8-3. Funktion mit der Schaltplatine ohne Kassettensteuerung

Wenn das hier beschriebene Verfahren nicht richtig durchgeführt wird, besteht die Gefahr einer Beschädigung des Mechanismus und des Bands. Daher sollte dieses Verfahren außer in besonderen Fällen, wie beispielsweise die Messung des Drehmoments bei der Rückwärtssuche (VS-REW), nicht angewendet werden. Normalerweise muß dieses Gerät mit angebrachter Cassettensteuerung-Baugruppe betrieben werden.

(1) Das System in den Auswurfmodus schalten.
(2) Den mechanischen Abschnitt mit der Hilfsvorrichtung für flexible Schaltkreise für Relais-Verwendung an die Hauptschaltkreisplatine anschließen. (siehe 9-1)
(3) Den Sperrnocken (1) entfernen.

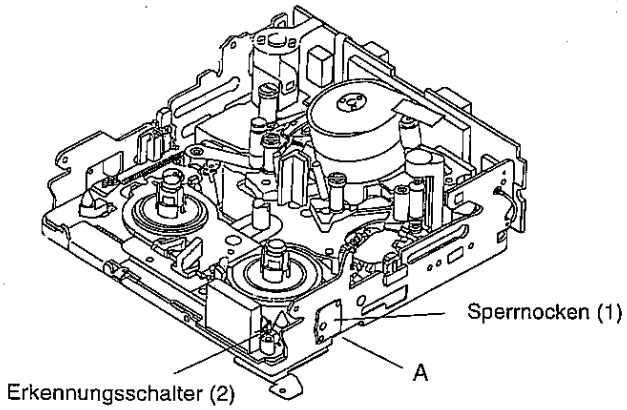


Abb. 3.

(4) Während der DOWN-Schalter und der Aufwickelsperre-Freigabehebel in die Richtung des Pfeils in Abb. 5 gedrückt wird, beispielsweise mit einem Schlitzschraubendreher, die Pappe (etwa 0,5 mm dick) von der Vorderseite des Mechanismus einschieben, wie in Abb. 4 gezeigt, und von der Rückseite des Mechanismus, wie in Abb. 5 gezeigt, und dann den DOWN-Schalter und den Aufwickelsperre-Freigabehebel freigeben (dies so durchführen, daß der Schalter einschaltet). Dabei muß darauf geachtet werden, die Aufwickelsperre-Freigabehebel nicht zu beschädigen.
(5) Nach dem Freigeben des Aufwickelsperre-Freigabehebel überprüfen, ob sich die Aufwickelspulenbasis gutgängig in beide Richtungen dreht.

Hinweis) Wenn der Aufwickelsperre-Freigabehebel nicht freigegeben wurde, tritt ein ratterndes Geräusch auf. Wird das Band in diesem Zustand geladen, blockiert die Spulenbasis, wodurch das Band und der Mechanismus beschädigt werden.
Hinweis) Wenn das System in den Aufnahmemodus geschaltet wird, gegen den Stift (mit * gekennzeichnet) des Erkennungsschalters (2) drücken (dies ist in anderen Modi nicht erforderlich).
(6) Wenn das System mit der Einstellung-Fernbedienung in den Testmodus T01 geschaltet wird, ohne eine Cassette einzulegen, ist es möglich, den Mechanismus mit der MODE-Taste zu bedienen.
(7) Beim Entnehmen der Cassette die in Schritt (4) eingefügte Pappe entfernen.
Hinweis) Auf gar keinen Fall den EJECT-Hebel auf dem Videorecorder-Rahmen betätigen, weil dadurch der Hebel und die Nocken beschädigt werden können. Beim Entnehmen tritt ein ratterndes Geräusch auf, aber dieses ist nicht abnormal.

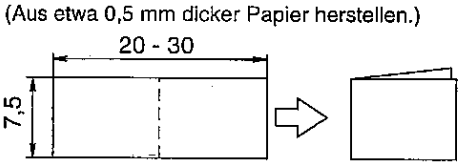
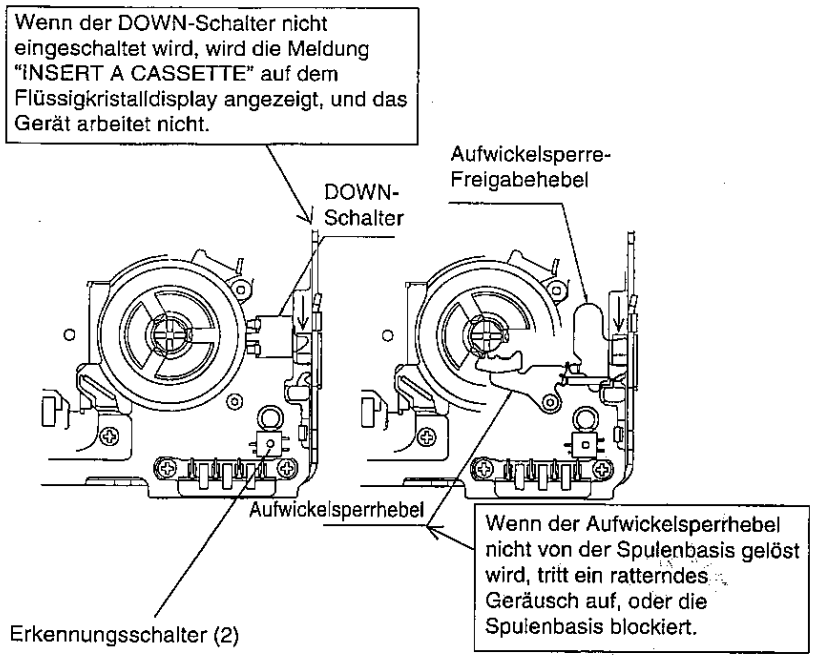


Abb. 4.


Wenn der DOWN-Schalter nicht eingeschaltet wird, wird die Meldung "INSERT A CASSETTE" auf dem Flüssigkristalldisplay angezeigt, und das Gerät arbeitet nicht.
DOWN-Schalter
Aufwickelsperre-Freigabehebel
Aufwickelsperrhebel
Wenn der Aufwickelsperrhebel nicht von der Spulenbasis gelöst wird, tritt ein ratterndes Geräusch auf, oder die Spulenbasis blockiert.
Erkennungsschalter (2)

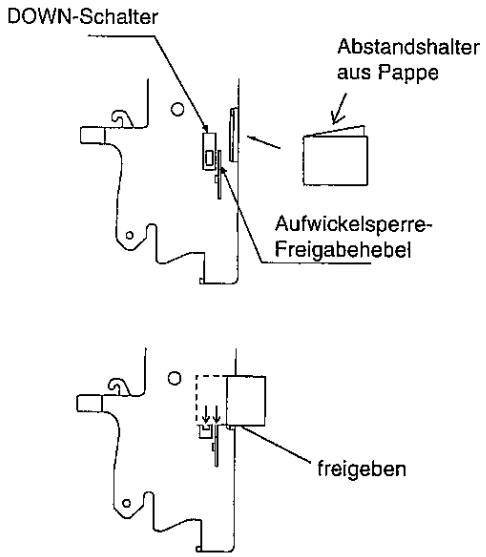


Abb. 5.

8-4. Phasenanpassung

Für die unten aufgeführten Teile die Phasen gemäß Abb. 6 anpassen.

(1) MODE-Schalter
(2) Hauptnocken
(3) Nocken-Kupplungsrad
(4) Andrucknocken

Hinweis) Vor dem Zerlegen die Positionen der Markierungen sorgfältig prüfen.

Hinweis) Nach der Phasenanpassung den MODE-Schalter mit der Hand drehen und prüfen, ob er sich um fast eine vollständige Drehung dreht. (Den Schalter nach der Überprüfung zurück in die ursprüngliche Stellung bringen.)

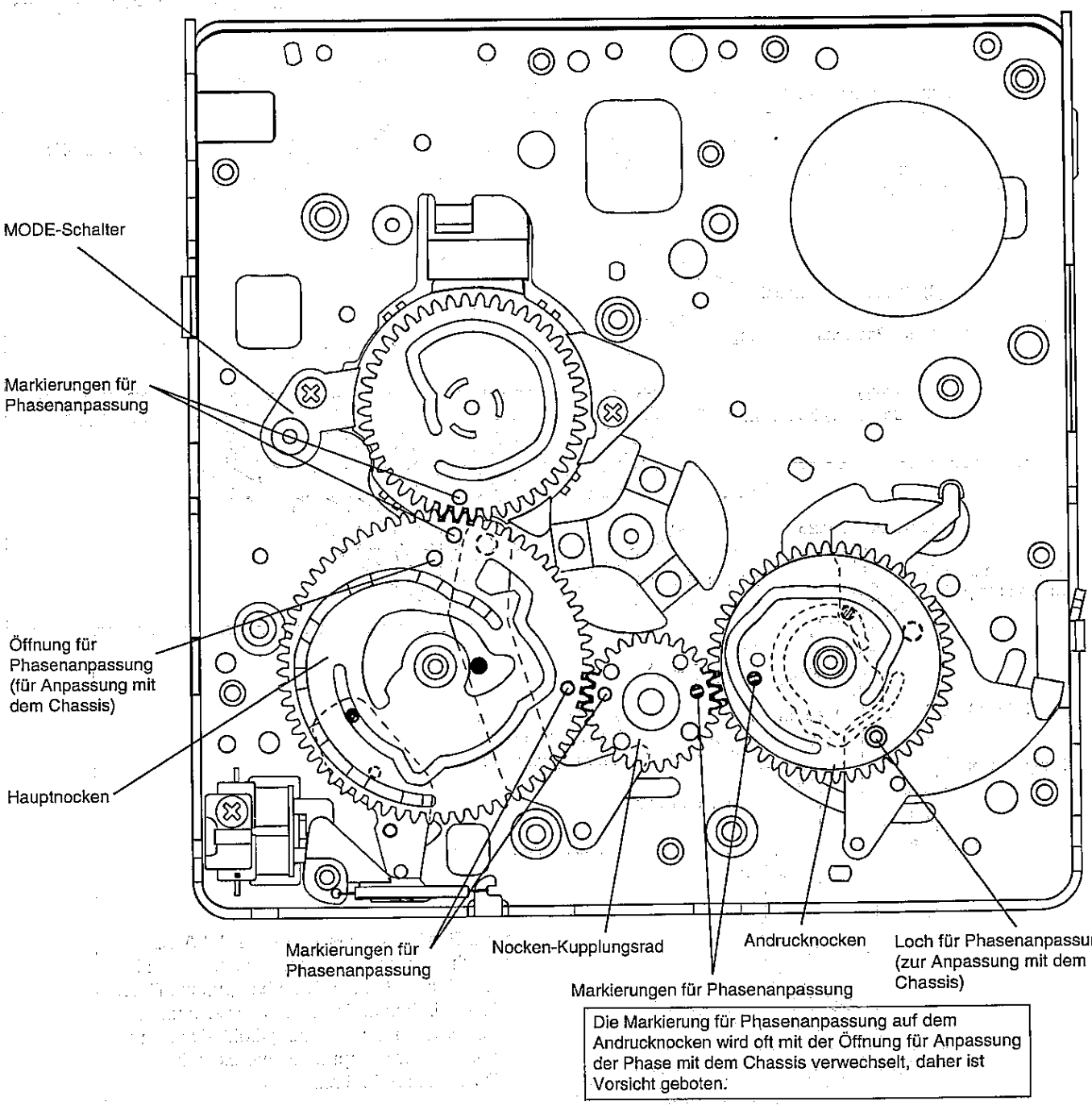
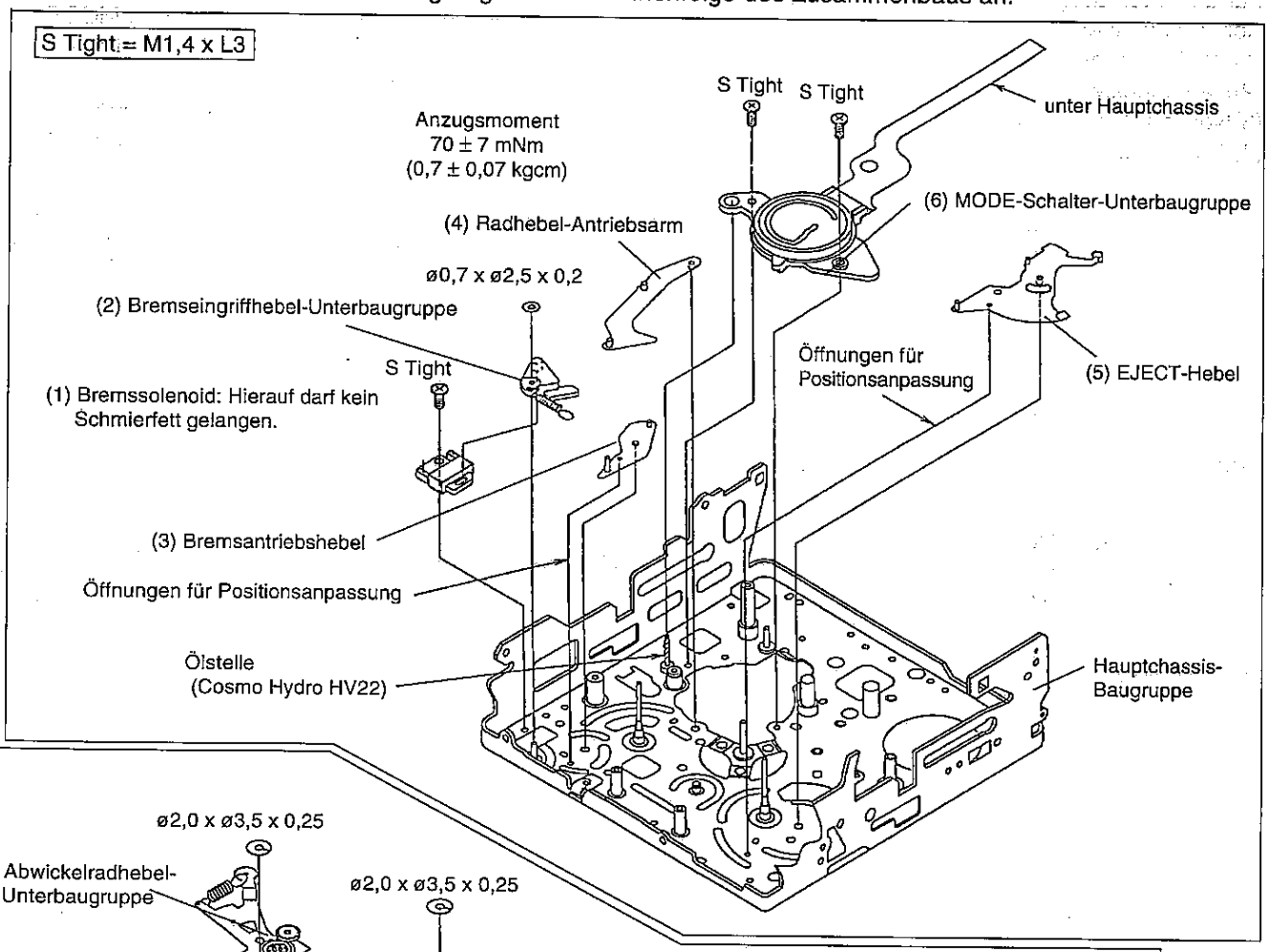
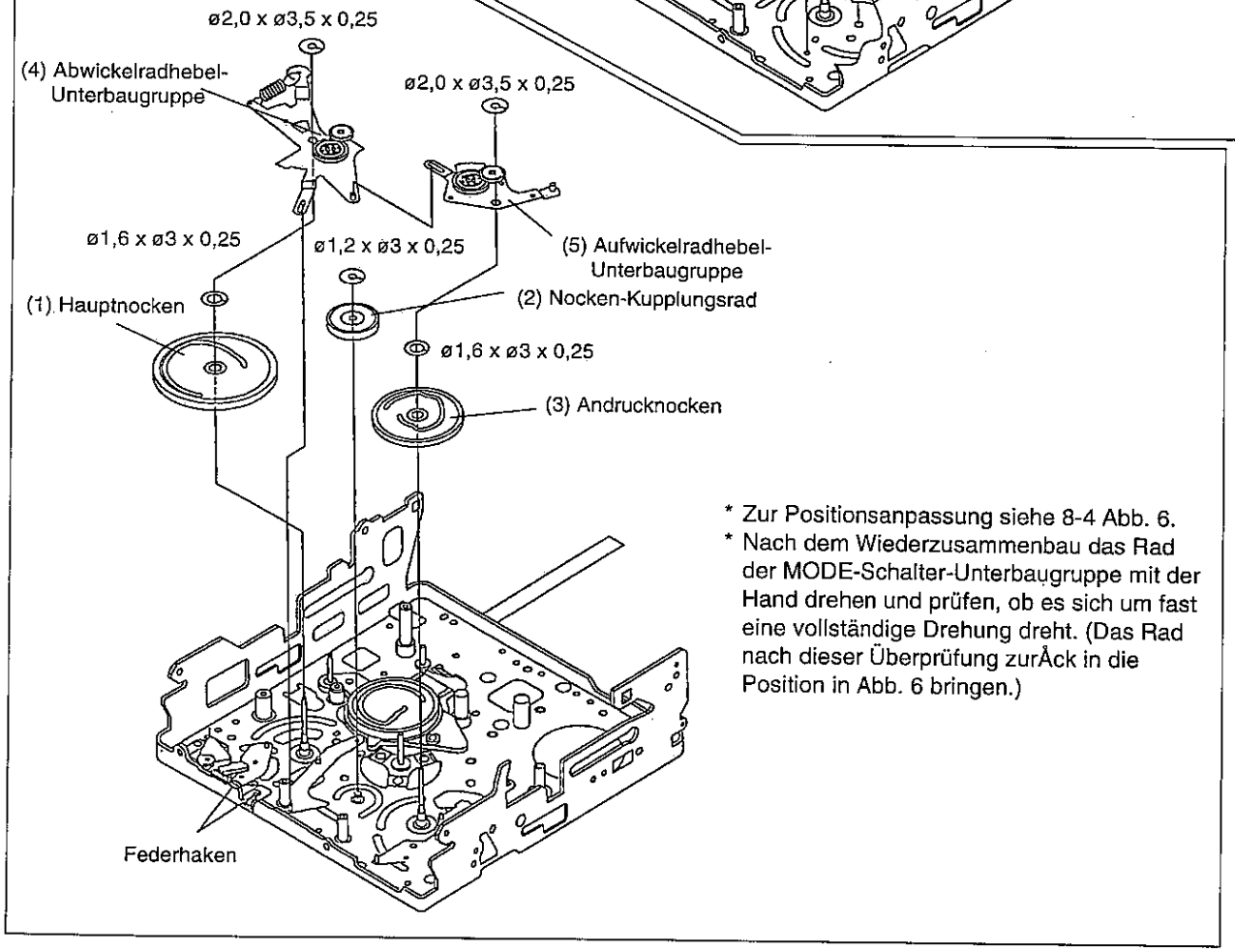

MODE-Schalter
Markierungen für Phasenanpassung
Öffnung für Phasenanpassung (für Anpassung mit dem Chassis)
Hauptnocken
Markierungen für Phasenanpassung
Nocken-Kupplungsrad
Andrucknocken
Loch für Phasenanpassung (zur Anpassung mit dem Chassis)
Markierungen für Phasenanpassung
Die Markierung für Phasenanpassung auf dem Andrucknocken wird oft mit der Öffnung für Anpassung der Phase mit dem Chassis verwechselt, daher ist Vorsicht geboten.

Abb. 6.

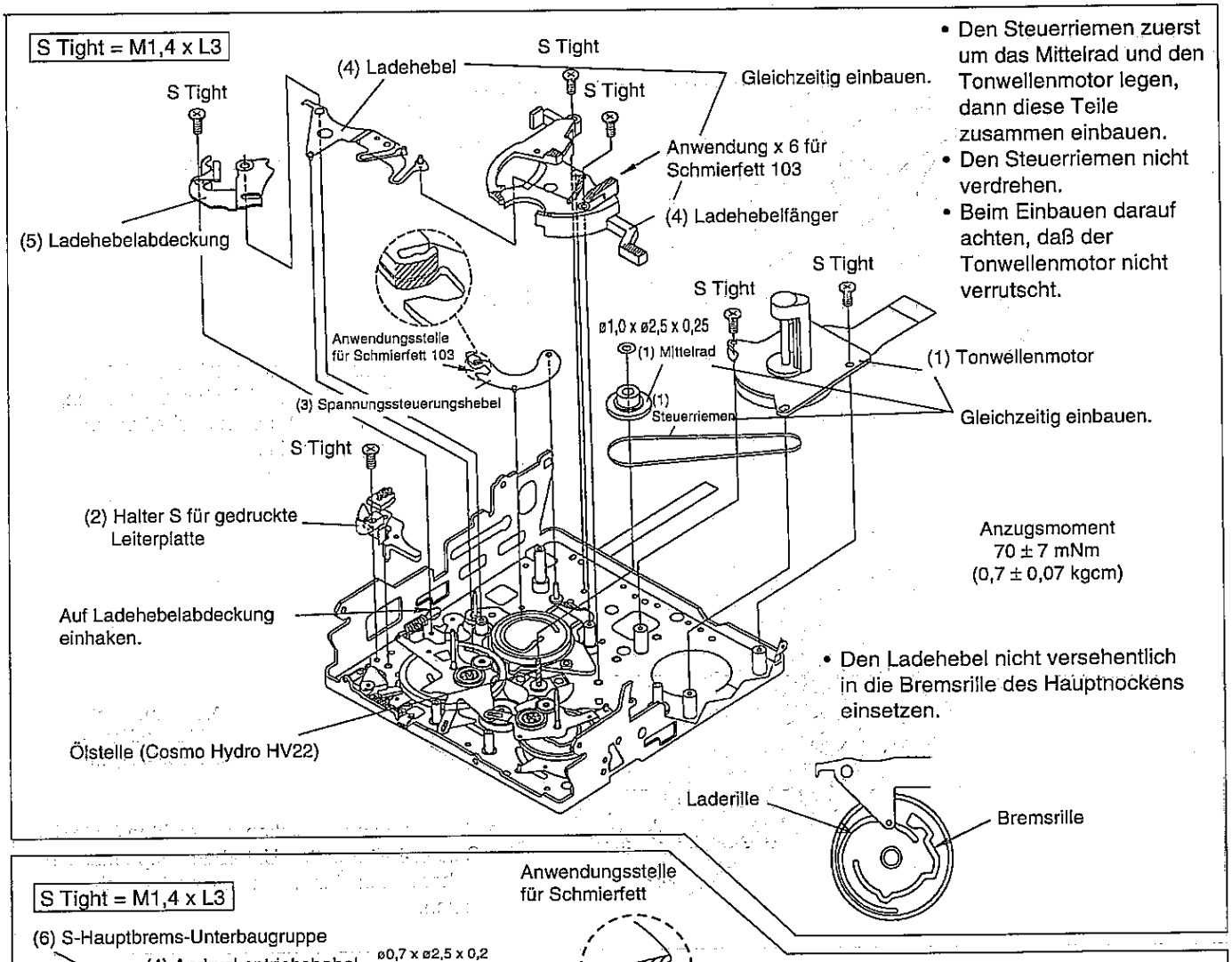
8-5. Wiederzusammenbau

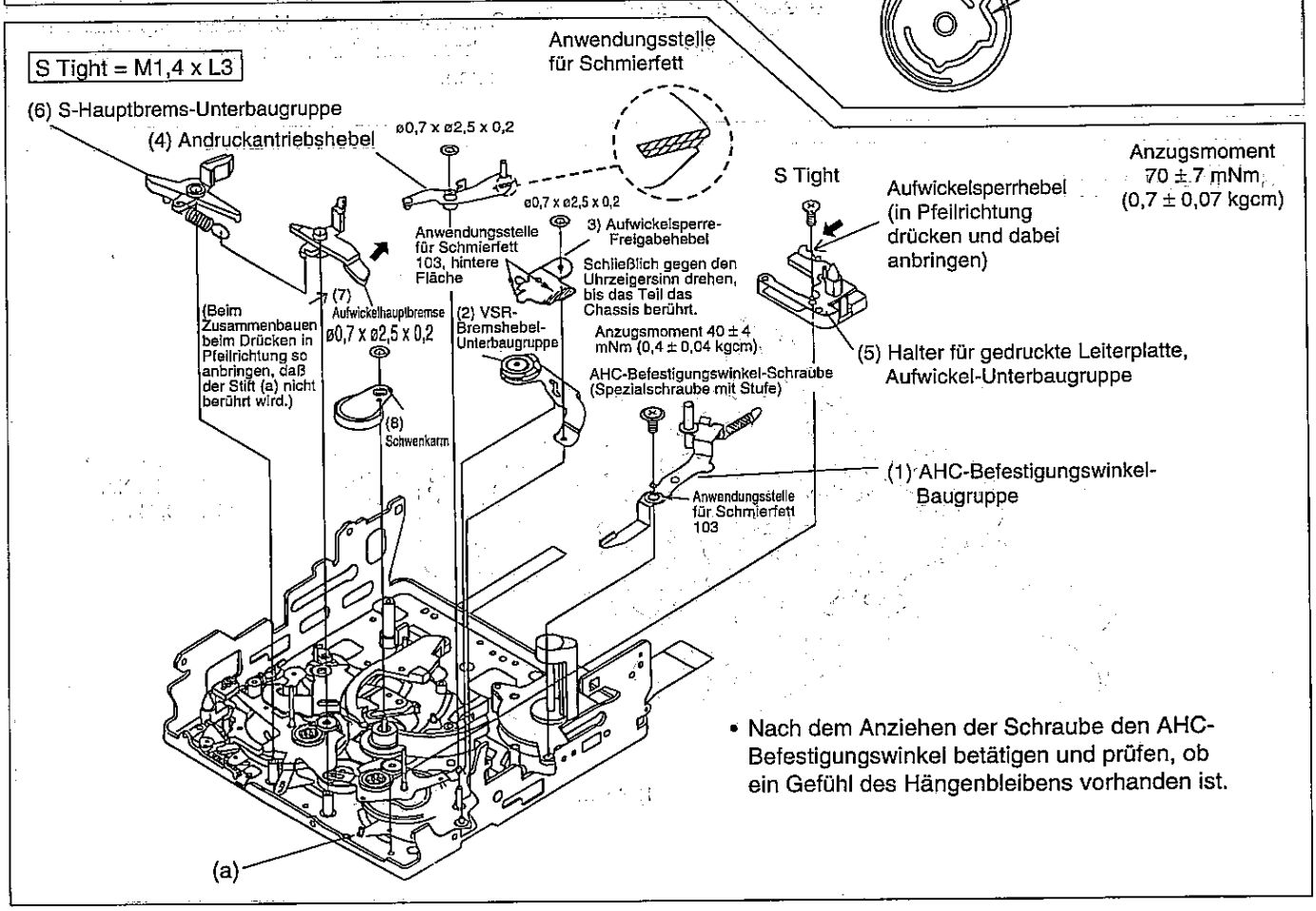
Hinweis) Nummern vor Teilebezeichnungen geben die Reihenfolge des Zusammenbaus an.



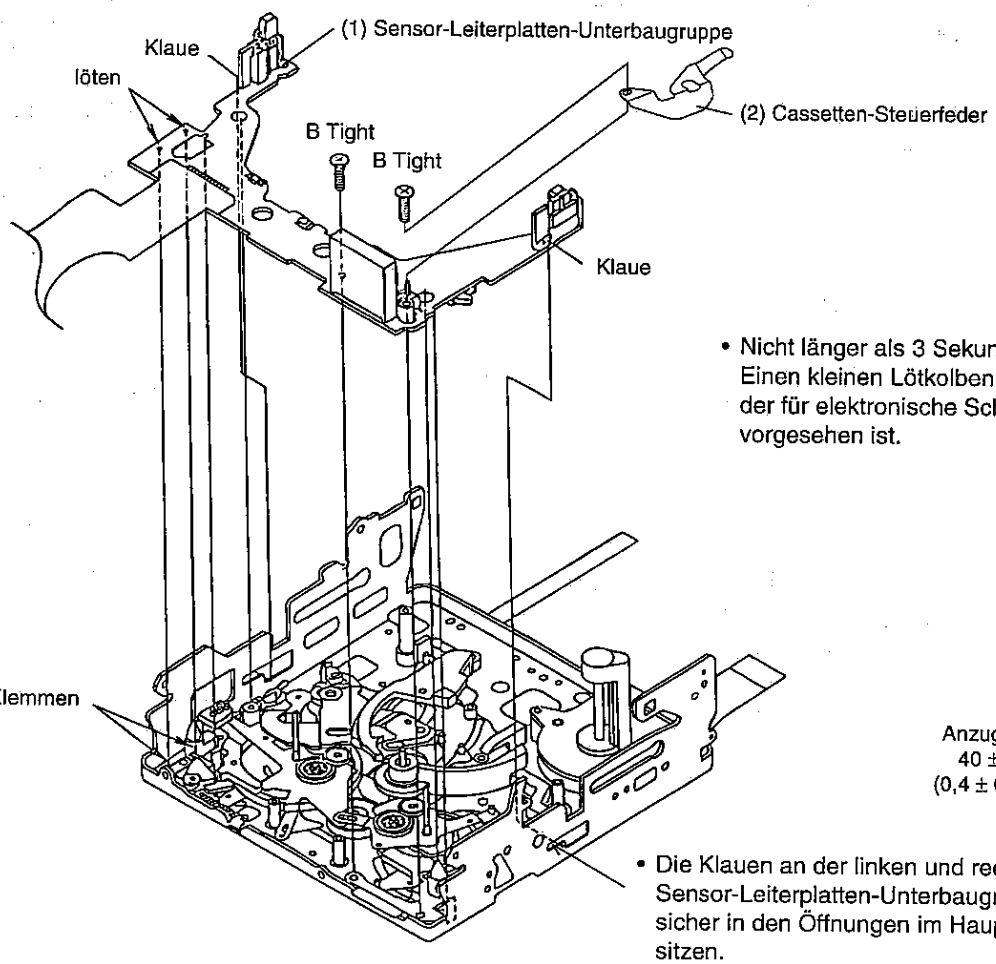


* Zur Positionsanpassung siehe 8-4 Abb. 6.
* Nach dem Wiederzusammenbau das Rad der MODE-Schalter-Unterbaugruppe mit der Hand drehen und prüfen, ob es sich um fast eine vollständige Drehung dreht. (Das Rad nach dieser Überprüfung zurÅck in die Position in Abb. 6 bringen.)


S Tight = M1,4 x L3
S Tight
(4) Ladehebel
S Tight
S Tight
Gleichzeitig einbauen.
Anwendung x 6 für Schmierfett 103
(4) Ladehebelfänger
(5) Ladehebelabdeckung
S Tight
S Tight
ø1,0 x ø2,5 x 0,25
(1) Mittelrad
(1) Tonwellenmotor
Anwendungsstelle für Schmierfett 103
(3) Spannungssteuerungshebel
(1) Steuerriemen
Gleichzeitig einbauen.
S Tight
(2) Halter S für gedruckte Leiterplatte
Anzugsmoment 70 ± 7 mNm (0,7 ± 0,07 kgcm)
Auf Ladehebelabdeckung einhaken.
Ölstelle (Cosmo Hydro HV22)
• Den Steuerriemen zuerst um das Mittelrad und den Tonwellenmotor legen, dann diese Teile zusammen einbauen.
• Den Steuerriemen nicht verdrehen.
• Beim Einbauen darauf achten, daß der Tonwellenmotor nicht verrutscht.
• Den Ladehebel nicht versehentlich in die Bremsrille des Hauptnockens einsetzen.
Laderille
Bremsrille


S Tight = M1,4 x L3
Anwendungsstelle für Schmierfett
(6) S-Hauptbrems-Unterbaugruppe
(4) Andruckantriebshebel
ø0,7 x ø2,5 x 0,2
ø0,7 x ø2,5 x 0,2
Anwendungsstelle für Schmierfett 103, hintere Fläche
3) Aufwickelsperre-Freigabehebel
Schließlich gegen den Uhrzeigersinn drehen, bis das Teil das Chassis berührt.
Anzugsmoment 40 ± 4 mNm (0,4 ± 0,04 kgcm)
(7) Aufwickelhauptbremse ø0,7 x ø2,5 x 0,2
(2) VSR-Bremshebel-Unterbaugruppe
(Beim Zusammenbauen beim Drücken in Pfeilrichtung so anbringen, daß der Stift (a) nicht berührt wird.)
(8) Schwenkarm
AHC-Befestigungswinkel-Schraube (Spezialschraube mit Stufe)
S Tight
Aufwickelsperrhebel (in Pfeilrichtung drücken und dabei anbringen)
Anzugsmoment 70 ± 7 mNm (0,7 ± 0,07 kgcm)
(5) Halter für gedruckte Leiterplatte, Aufwickel-Unterbaugruppe
(1) AHC-Befestigungswinkel-Baugruppe
Anwendungsstelle für Schmierfett 103
(a)
• Nach dem Anziehen der Schraube den AHC-Befestigungswinkel betätigen und prüfen, ob ein Gefühl des Hängenbleibens vorhanden ist.

B Tight = M1,4 x L6

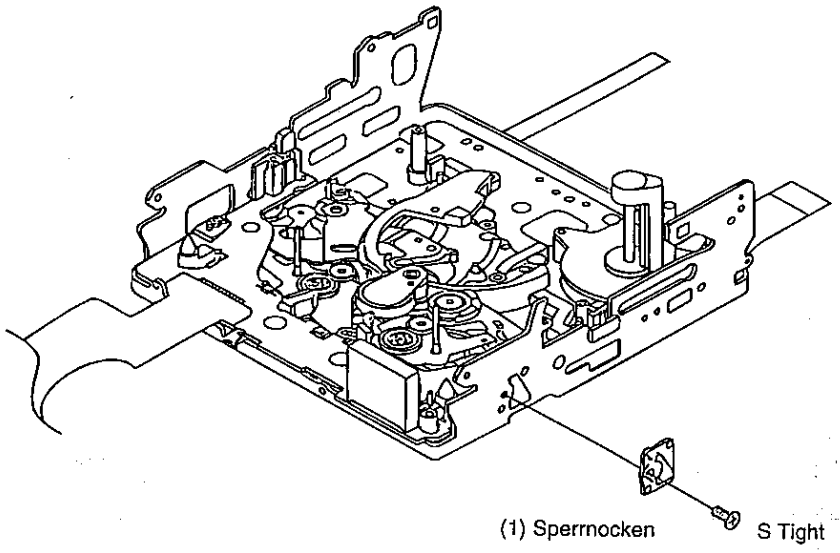


- Nicht länger als 3 Sekunden löten. Einen kleinen Lötkolben verwenden, der für elektronische Schaltungen vorgesehen ist.

Anzugsmoment
40 ± 4 mNm
(0,4 ± 0,04 kgcm)

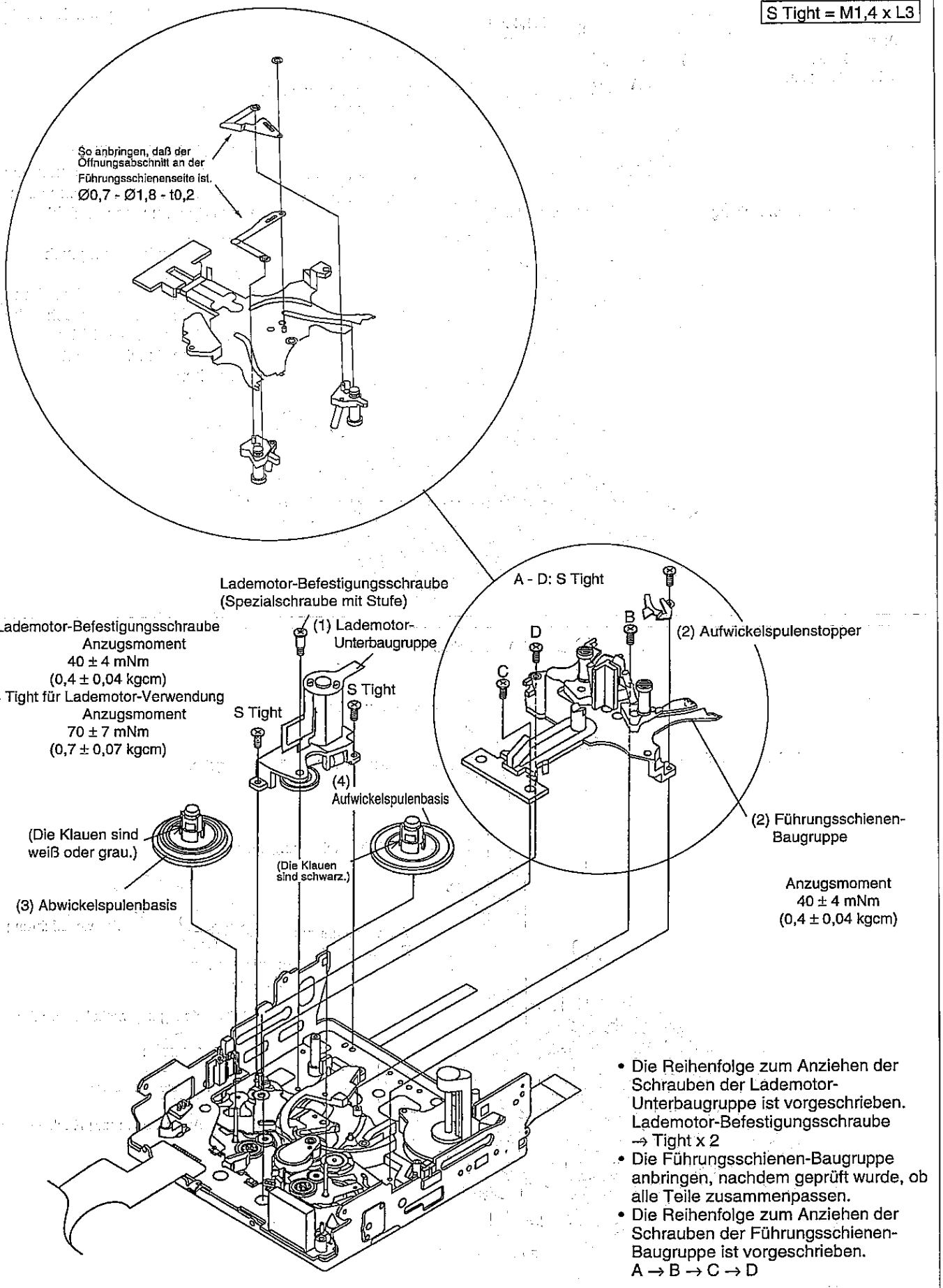
- Die Klauen an der linken und rechten Seite der Sensor-Leiterplatten-Unterbaugruppe müssen sicher in den Öffnungen im Hauptchassis sitzen.

S Tight = M1,4 x L3

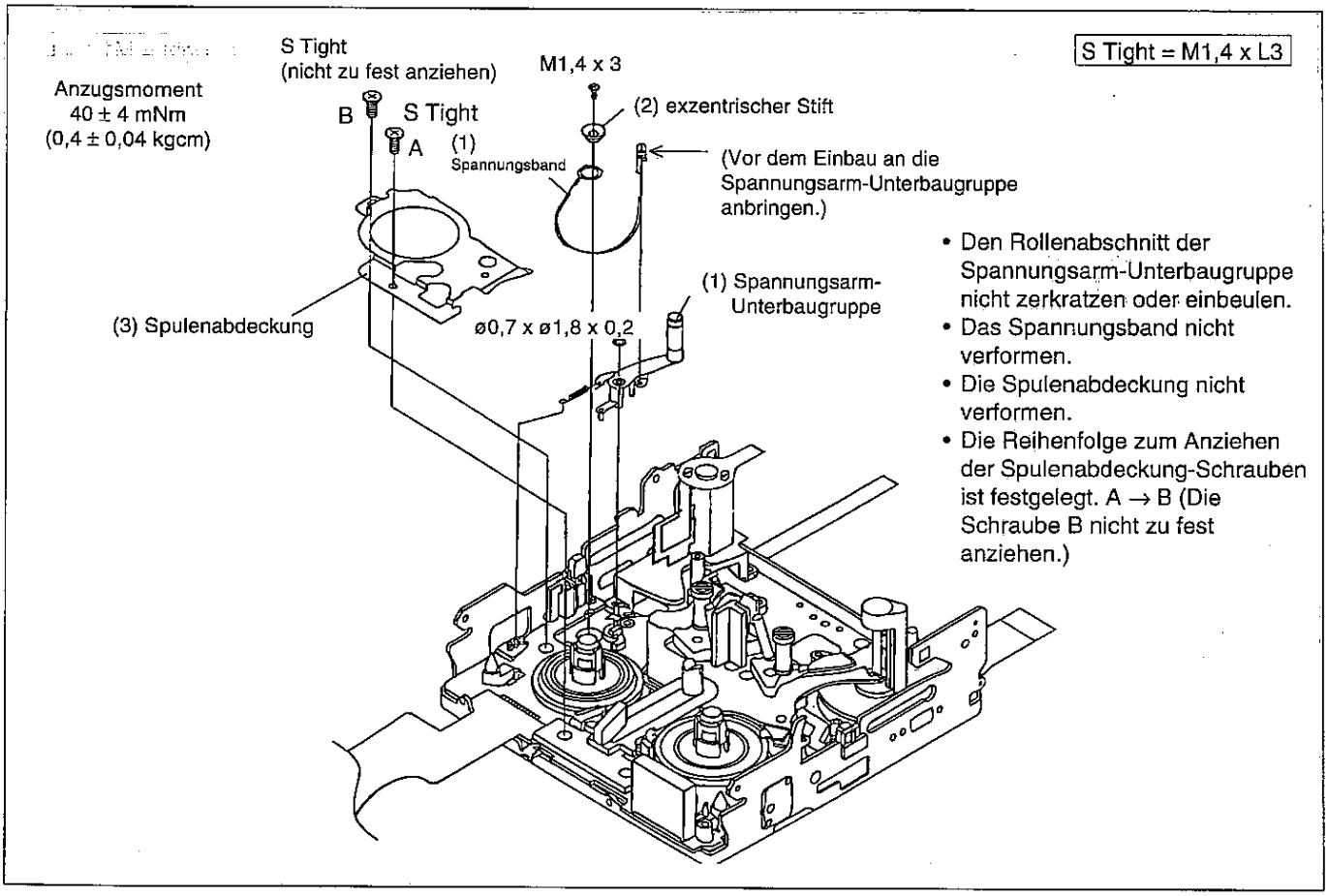


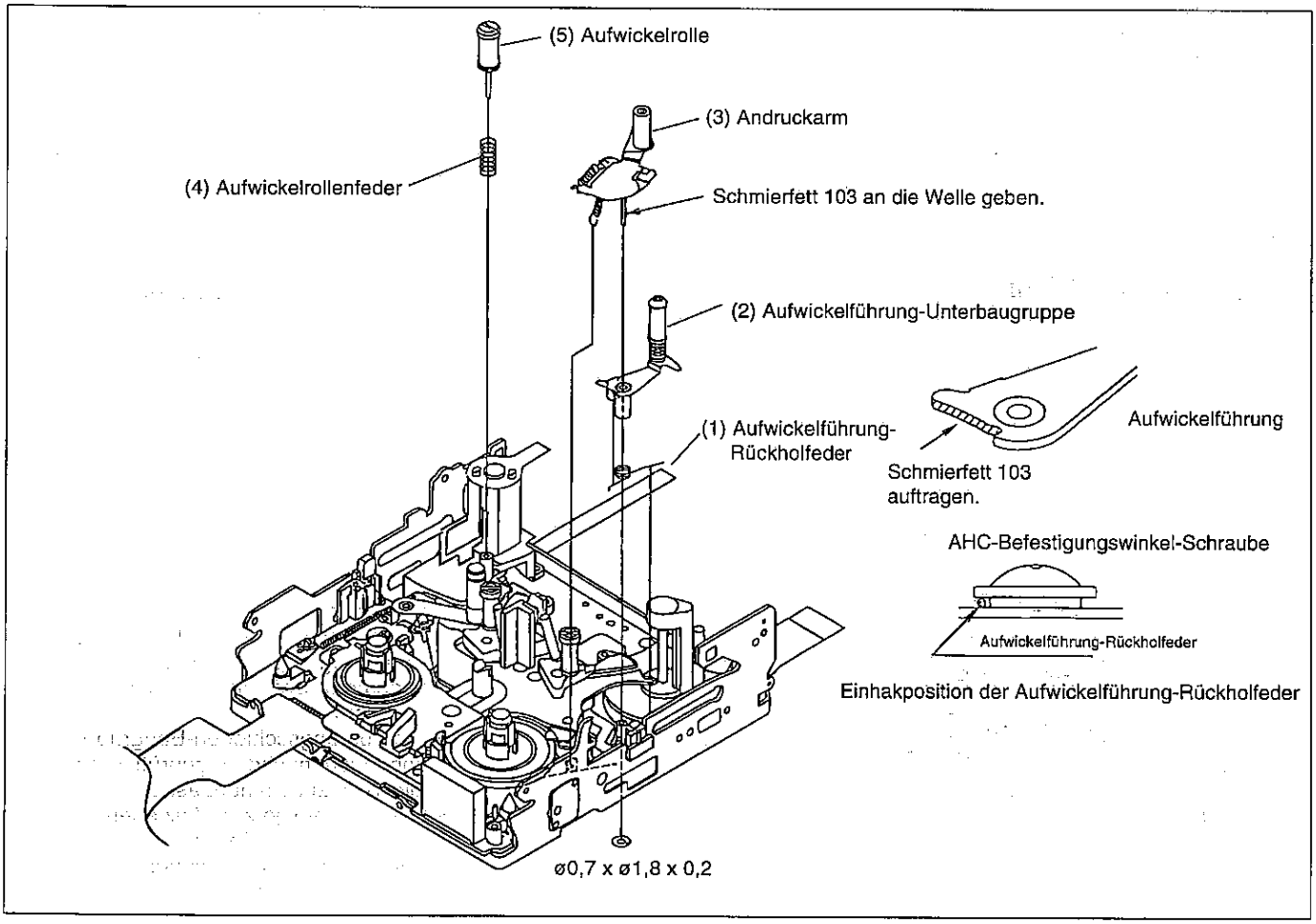
Anzugsmoment
40 ± 4 mNm
(0,4 ± 0,04 kgcm)

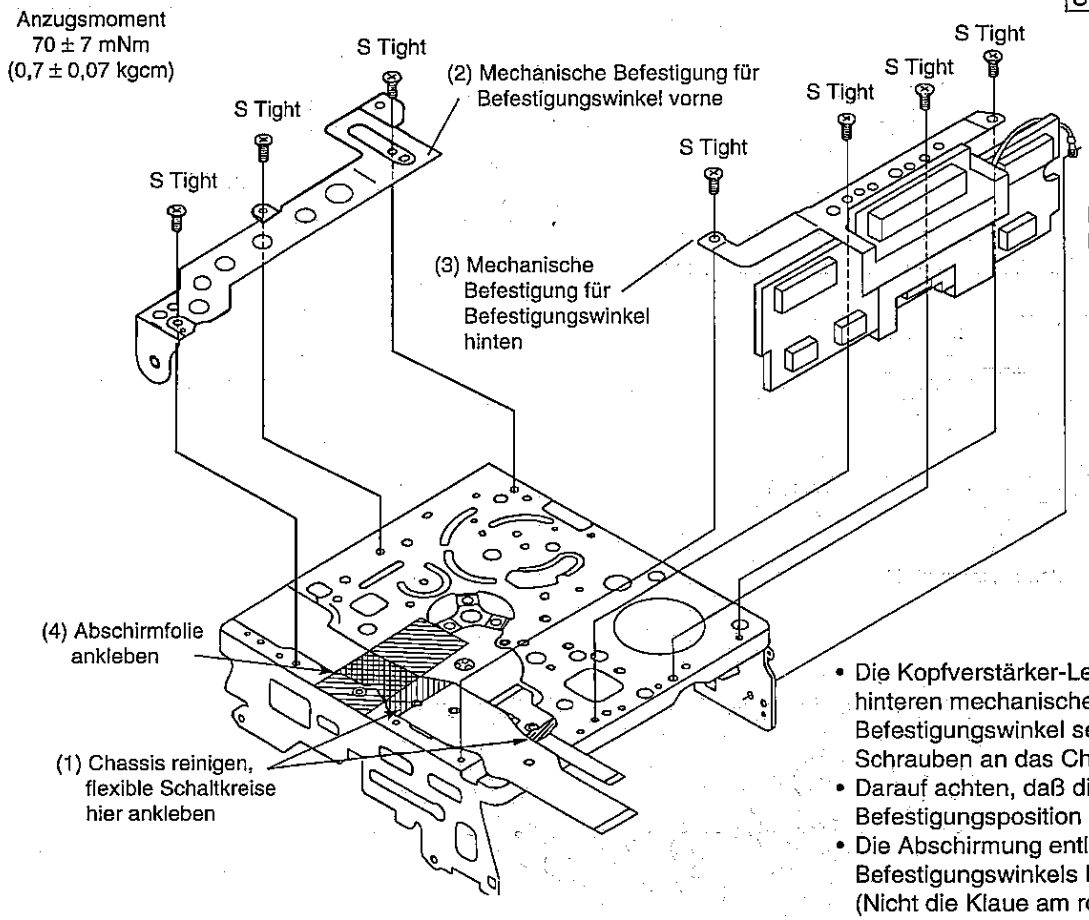
S Tight = M1,4 x L3



- Die Reihenfolge zum Anziehen der Schrauben der Lademotor-Unterbaugruppe ist vorgeschrieben.
  Lademotor-Befestigungsschraube
  → Tight x 2
- Die Führungsschienen-Baugruppe anbringen, nachdem geprüft wurde, ob alle Teile zusammenpassen.
- Die Reihenfolge zum Anziehen der Schrauben der Führungsschienen-Baugruppe ist vorgeschrieben.
  A → B → C → D

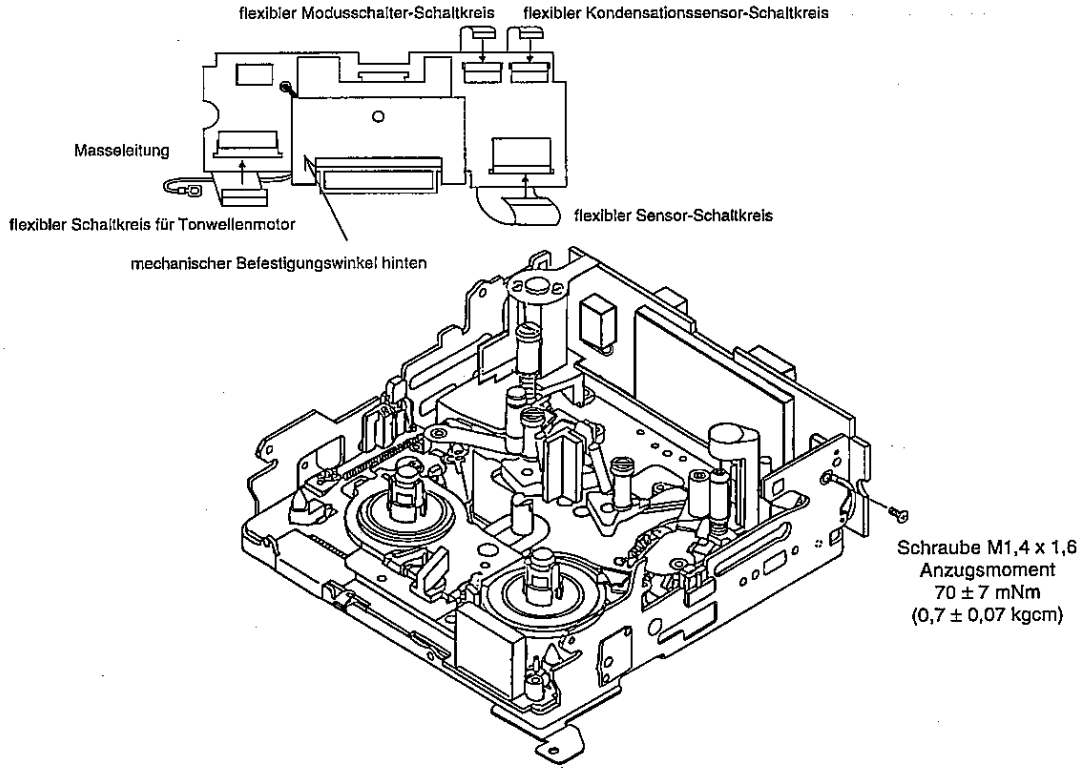

S Tight = M1,4 x L3
S Tight
(nicht zu fest anziehen)
M1,4 x 3
Anzugsmoment
40 ± 4 mNm
(0,4 ± 0,04 kgcm)
B
S Tight
A
(1)
Spannungsband
(2) exzentrischer Stift
(Vor dem Einbau an die Spannungsarm-Unterbaugruppe anbringen.)
(3) Spulenabdeckung
ø0,7 x ø1,8 x 0,2
(1) Spannungsarm-Unterbaugruppe
• Den Rollenabschnitt der Spannungsarm-Unterbaugruppe nicht zerkratzen oder einbeulen.
• Das Spannungsband nicht verformen.
• Die Spulenabdeckung nicht verformen.
• Die Reihenfolge zum Anziehen der Spulenabdeckung-Schrauben ist festgelegt. A → B (Die Schraube B nicht zu fest anziehen.)

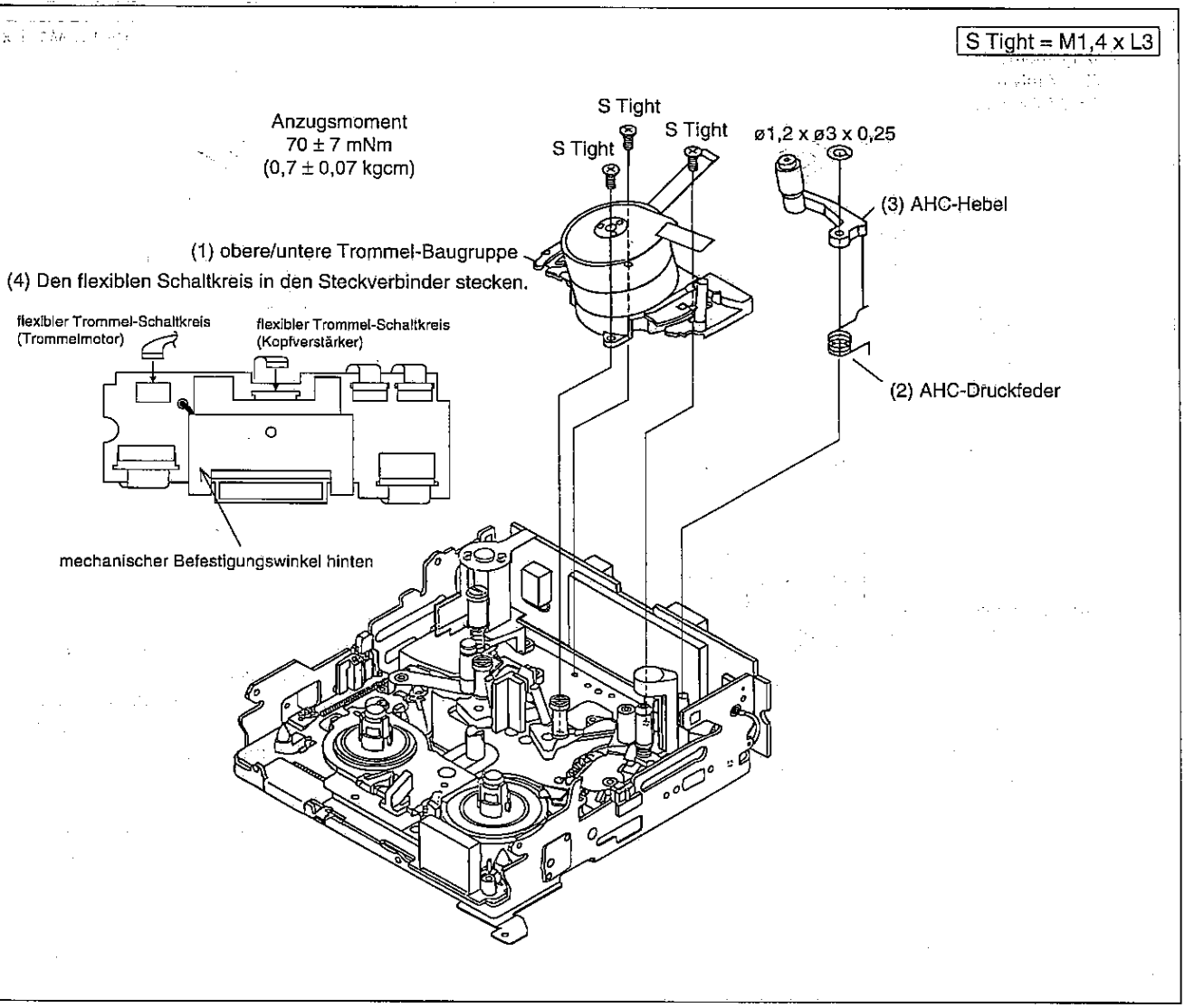

(5) Aufwickelrolle
(3) Andruckarm
(4) Aufwickelrollenfeder
Schmierfett 103 an die Welle geben.
(2) Aufwickelführung-Unterbaugruppe
(1) Aufwickelführung-Rückholfeder
Aufwickelführung
Schmierfett 103 auftragen.
AHC-Befestigungswinkel-Schraube
Aufwickelführung-Rückholfeder
Einhakposition der Aufwickelführung-Rückholfeder
ø0,7 x ø1,8 x 0,2



- Die Kopfverstärker-Leiterplatte an den hinteren mechanischen Befestigungswinkel setzen und diese mit Schrauben an das Chassis anbringen.
- Darauf achten, daß die Befestigungsposition nicht verrutscht.
- Die Abschirmung entlang des Befestigungswinkels F ankleben. (Nicht die Klaue am rotierenden Teil des Modusschalters berühren.)

(1) Den flexiblen Schaltkreis in den Steckverbinder stecken.
(2) Die Erdungsleitung, wie nachfolgend gezeigt, verlegen.




S Tight = M1,4 x L3
Anzugsmoment
70 ± 7 mNm
(0,7 ± 0,07 kgcm)
S Tight
S Tight
S Tight
ø1,2 x ø3 x 0,25
(3) AHC-Hebel
(1) obere/untere Trommel-Baugruppe
(4) Den flexiblen Schaltkreis in den Steckverbinder stecken.
flexibler Trommel-Schaltkreis (Trommelmotor)
flexibler Trommel-Schaltkreis (Kopfverstärker)
(2) AHC-Druckfeder
mechanischer Befestigungswinkel hinten

9. EINSTELLUNG DER ELEKTRISCHEN SCHALTKREISE

— Zur Beachtung bei der Durchführung der Einstellungen —

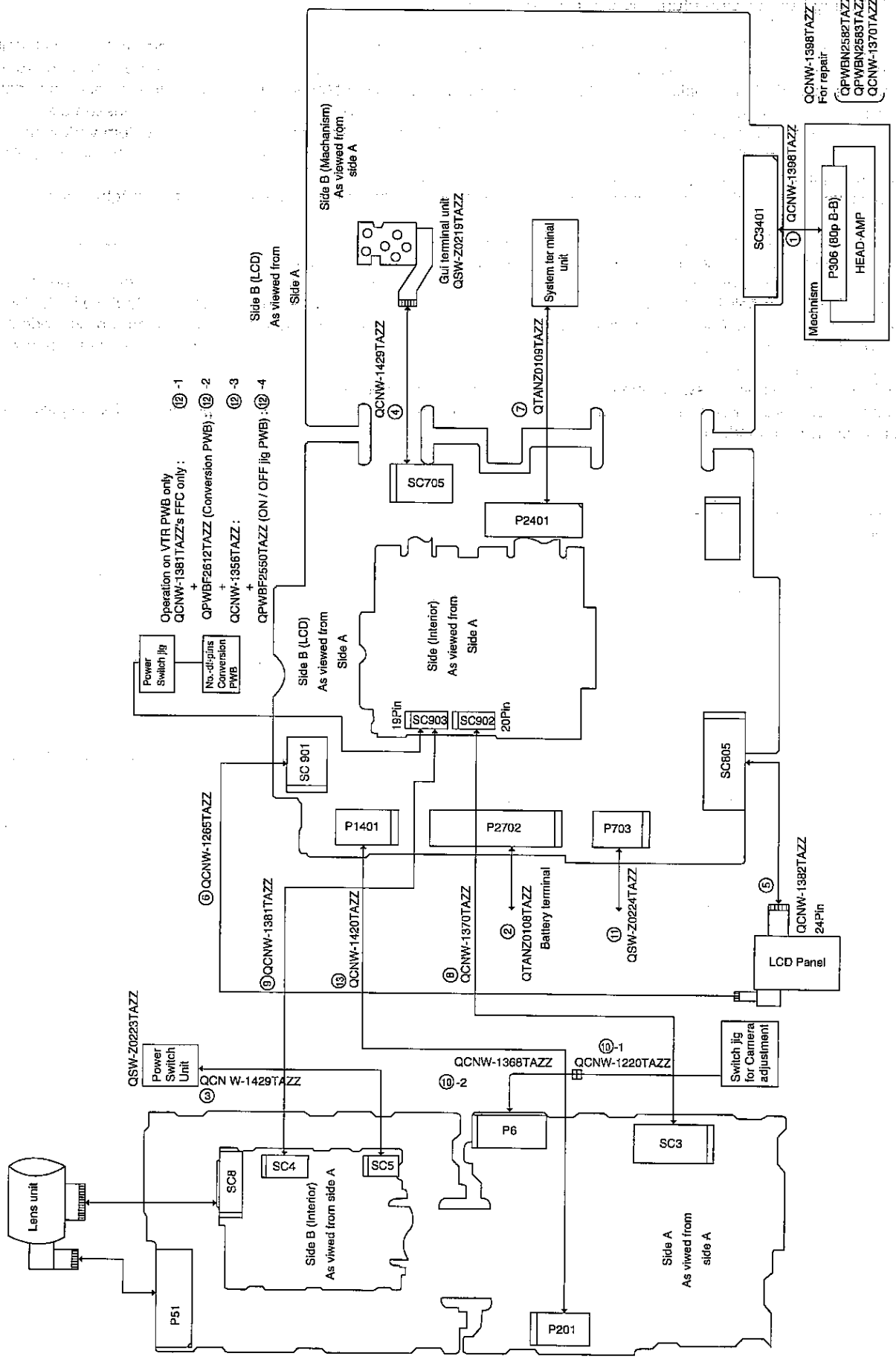
- Die hier beschriebenen Einstellverfahren kommen in der Hauptsache zur Anwendung, wenn mechanische Verbrauchsteile einschließlich des Videokopfes ersetzt wurden, wobei die elektrischen Schaltkreise neu eingestellt werden müssen. Vor der Einstellung der elektrischen Schaltkreise muß sichergestellt werden, daß der Mechanismus einwandfrei arbeitet (d.h. daß der Mechanismus richtig eingestellt ist). Wenn bei einem der elektrischen Schaltkreise ein Problem auftritt, müssen die vorgeschriebenen Meßinstrumente verwendet werden, um den Bereich zu lokalisieren, in dem das Problem vorkommt. Danach müssen die erforderlichen Maßnahmen durchgeführt werden, einschließlich Reparatur, Austausch oder Einstellung, gemäß den folgenden Anweisungen zu den elektrischen Einstellverfahren.
  Es darf nicht versucht werden, Einstellungen vorzunehmen, ohne daß die richtigen Meßinstrumente verfügbar sind.

- Dieses Gerät ist so aufgebaut, daß die elektrischen Schaltkreise in seiner Leiterplatten-Einheit hauptsächlich aus hochdichten, kleinen oberflächenmontierten Bauteilen bestehen, um das Gerätegehäuse klein zu halten.
  Zur Durchführung von Reparaturen und zum Auswechseln von Teilen muß ein Lötkolben verwendet werden, wobei die Zeitdauer so kurz wie möglich gehalten werden muß. Der Grund hierfür ist, daß oberflächenmontierte Bauteile in der Regel klein und empfindlich gegenüber Hitze sind, im Vergleich mit großen, diskreten Teilen, die in Fernsehgeräten, Videodecks usw. verwendet werden, so daß durch Erwärmung ihrer Elektroden über eine zu lange Zeitdauer mit einem Lötkolben zu Beschädigungen führen kann.
  Dies gilt insbesondere beim Auswechseln von laminierten Chip-Kondensatoren.
  Für diesen Zweck werden keramische Lötkolben mit einem Temperaturregler empfohlen (Temperatur der Eisenspitze 250°C, Lötzeit höchstens 5 Sekunden).

9-1. Einstellung des LCD-Videobildschirms

- Meßvorrichtungen
- Farbmonitorbildschirm
- Oszilloskop
- Vektorskop
- Digital-Voltmeter
- Frequenzzähler
- Gleichstromversorgung
- Signalgenerator (NTSC-Mustergenerator LCG-401/401YC, hergestellt von Leader)
- Audiosignalgenerator (CR-Generator)
- leere Videocassette
- Abgleichband 90ADVC-TAPEPAL (Farbbalken)
- Netzadapter
- Gleichstromkabel (mit Netzadapter mitgeliefert)
- Stereo-AV-Ausgangskabel (mitgeliefert)
- Verlängerungskabel für Videoabschnitt
- Einstellung-Fernbedienung

Anordnung der Hilfsvorrichtung für Wartung

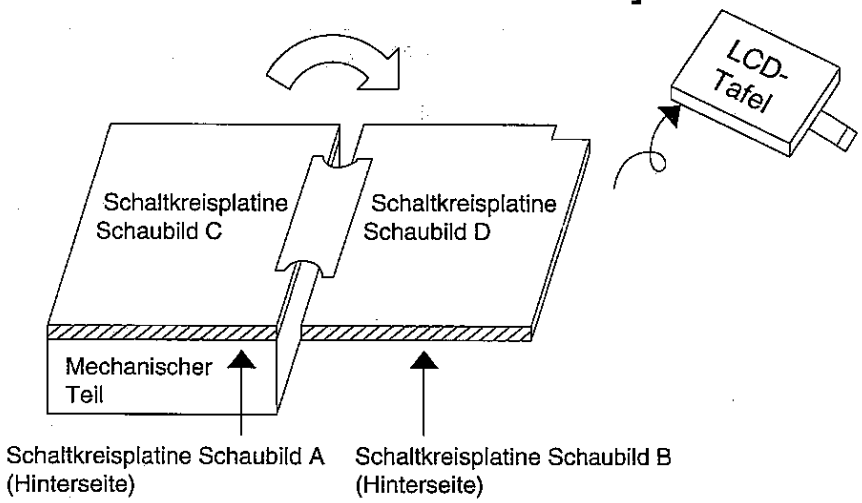


Technische Daten der Hilfsvorrichtungen für Wartung

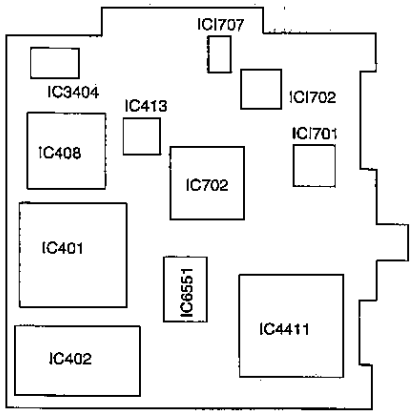
Nr.	Anschluß an oder zwischen:	Stecker-Referenz-Nr.	Anzahl der Stifte	Abstand	Kabellänge	Teilecode
1)	H/A ↔ VCR	P306 ↔ SC3401	80B-B	0.5		QCNW-1398TAZZ
(1)	H/A	P306	↓	↓		QPWBN2582TAZZ
(2)	VCR	SC3401	↓	↓		QPWBN2583TAZZ
(3)	FFC		20	↓	200	QCNW-1370TAZZ
2)	Batterieklemme	P2702 ←	14			QTANZ0108TAZZ Verwendet mit Produkteinheiten
3)	Ein/Aus-Schalter	SC5 ↔ Ein/Aus-Schalter-Einheit	8	0.8		QCNW-1429TAZZ
4)	GUI OPE.	SC705 ↔ UNIT	8	↓		QCNW-1429TAZZ
5)	Videorecorder ↔ LCD-Tafel	SC805 ↔ LCD	24	0.5		QCNW-1382TAZZ
6)	VCR ↔ INV	SC8901 ↔ INV	7	↓		QCNW-1265TAZZ
7)	Videorecorder ↔ Systemanschluß	P2401 ↔ Systemanschluß	60B-B	↓		QTANZ0109TAZZ Verwendet mit Produkteinheiten
8)	CAM1 FFC	SC902 ↔ SC3	20	↓		QCNW-1370TAZZ
9)	CAM2 FFC	SC903 ↔ SC4	19	↓		QCNW-1381TAZZ
10-1) -2)	CAM ADJ	P6 ←	26	0.8		QCNW-1220TAZZ QCNW-1368TAZZ
11)	EJECT SW	P703 ←	3			QSW-Z0224TAZZ Verwendet mit Produkteinheiten
12-1)	Ein/Aus-Schalter (bei unabhängigem Betrieb des Videorecorder-CBA)	SC903 ↔ Stiftzahl-Umwandlung	19	0.5		QCNW-1381TAZZ
-2)		Umwandlung von 18 zu 19 Stiften				QPWBF2612TAZZ
-3)		Stiftzahl-Umwandlung ↔ Hilfsvorrichtung für Ein/Aus-Schalter	18	0.5		QCNW-1356TAZZ
-4)						QPWBF2550TAZZ
13)	CAM ↔ VCR	P201 ↔ P1401	4	1.25		QCNW-1420TAZZ
14)	Einstellung-Fernbedienung					RRMCG0033TASA

* Hilfsvorrichtung Nr. 12 wird nur verwendet, wenn die Videorecorder-Leiterplatte unabhängig eingesetzt wird, weil keine Kamera vorhanden ist oder keine benötigt wird.

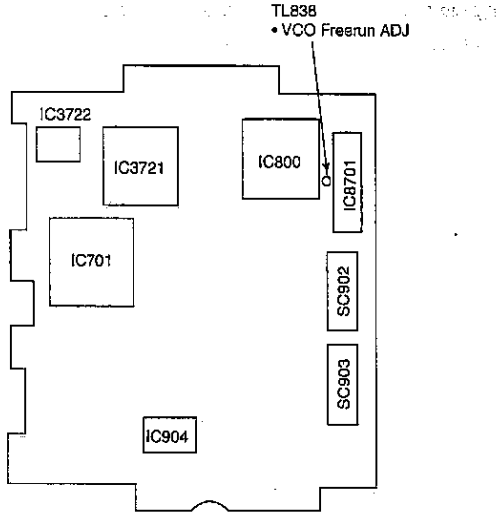
[SCHALTKREISPLATINE SCHAUBILDANORDNUNG]



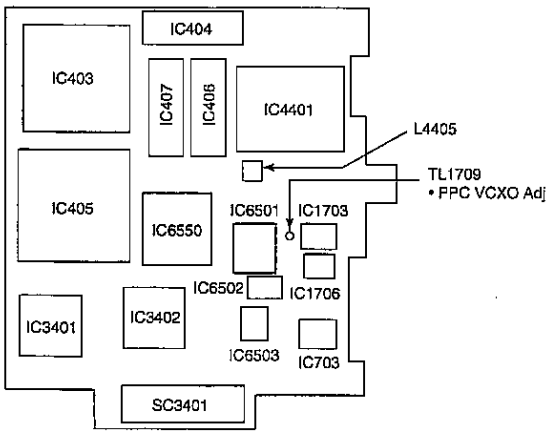
(SCHALTKREISPLATINE SCHAUBILD C)



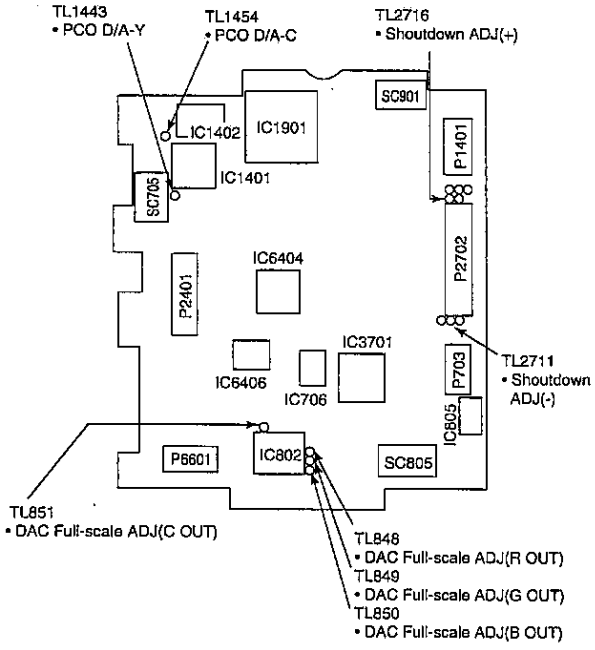
(SCHALTKREISPLATINE SCHAUBILD D)



(SCHALTKREISPLATINE SCHAUBILD A)



(SCHALTKREISPLATINE SCHAUBILD B)



[Durchführung von Einstellungen]

Einstellung der Servosystem-Steuerung und zugehöriger Teile

1. Einstellung der Systemcodes

Für das Auswechseln des IC706E²PROM müssen die folgenden Daten in dieser Reihenfolge eingestellt werden.

[Verfahren]

Das Gerät in den Videorecorder-Modus schalten und die Daten für die einzelnen Adressen einstellen.

	Adresse	Daten
1) Modellcode	01	01
	09	FE
2) Bestimmungscode	02	0B (VL-DC1E), 0A (Vl-DC1H/S)
	0A	F4 (VL-DC1E), F5 (VL-DC1H/S)
3) Spezifikationscode	03	08
	0B	F7
4) Menüwahlcode	04	00
	0C	FF
5) Software-Umschaltcode	05	00
	0D	FF
6) Kalender-Umschaltcode	07	96
	0F	69
7) 1/4-Spur	1F	FF

Vor dem Ersetzen des E²PROM müssen zuerst die folgenden Einstellungen gemacht werden. Danach erst mit den Justierungen beginnen.

Hintergrundbeleuchtung

Adresse	Daten
10	F8
11	CC
12	89
13	44
14	BC
16	48
17	66
18	87
1B	01
1C	00

Strom

Adresse	Daten
3B	82
3C	80

Flüssigkristallanzeige

Adresse	Daten
43	2C
4B	E2
4C	E7
4D	F6
4E	99
4F	2A
51	C6
52	2C
53	AC
54	CE
55	CE
56	F2
58	5C
59	11
5A	11
5B	F9
5C	01
5D	40
5E	08
64	62
69	40
6A	40
6B	40
6C	40

Elektromagnetische Wandlung

Adresse	Daten
25	80
26	80
27	48
28	80
2B	DA

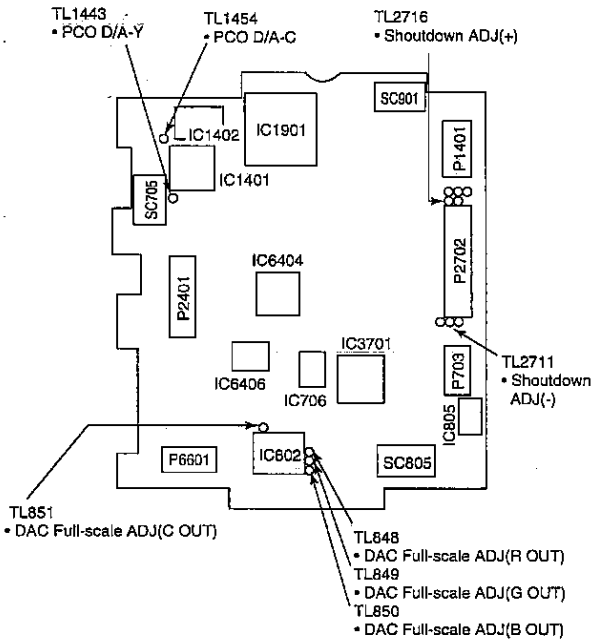
* Auf einige Einstellungsschrittnummern folgen Angaben, wann die Einstellung durchzuführen ist.

Beispiele

1) Beim E²PROM-Austausch
2) Beim Austausch der Schaltkreisplatine (Hauptplatine)
3) Beim LCD-Austausch
4) Beim Austausch des Mechanismus

2. Einstellung der Ausschaltspannung

(SCHALTKREISPLATINE SCHAUBILD B)



[Verfahren]

1) Die leere Cassette in das Deck einlegen.
2) Das Gerät in den Kameramodus schalten und die Aufnahme starten.
3) Die Tasten "CONTINUE" und "TEST SEL" an der Einstellung-Fernbedienung in dieser Reihenfolge betätigen.
4) T03 mit den Tasten "REW" und "FF" wählen und die Taste "PLAY" drücken.
→ Dadurch wird der Betriebsmodus in den Einstellmodus für Ausschaltspannung umgeschaltet.
Dann wechselt das Display, in dem T03 blinkt, zur normalen Anzeige für Aufnahme.
5) Die Spannung zwischen TL2716 (+) und TL2711 (-) mit dem digitalen Multimeter messen, und externe Spannung zuführen, bis die Spannung auf +2,80 V Wechselstrom eingestellt ist.
6) Die Taste "backlight compensation (▶/▶◀)" drücken. (Die Anzeige für Gegenlichtkompensation wechselt von blau zu gelb.)
→ Dadurch wird die automatische Einstellung ausgeführt.
Wenn die Anzeige "BATTERY" für einen Augenblick erscheint, sind die Einstellungen beendet.
7) Die Taste "CONTINUE" an der Einstellung-Fernbedienung betätigen.

3. HSWP-Einstellung

[Verfahren]

1) Das Abgleichband im Videomodus wiedergeben.
2) Die Tasten "CONTINUE" und "HSWP ADJ" an der Einstellung-Fernbedienung in dieser Reihenfolge drücken.
→ Hierdurch wird die HSWP-Einstellung durchgeführt.
Wenn die Einstellung erfolgreich erfolgt, leuchtet die blaue LCD und die Cassette wird automatisch ausgeworfen. Ist eine Einstellunbg nicht möglich, leuchtet die rote LCD und das Band stoppt automatisch.

1) Beim E²PROM-Austausch

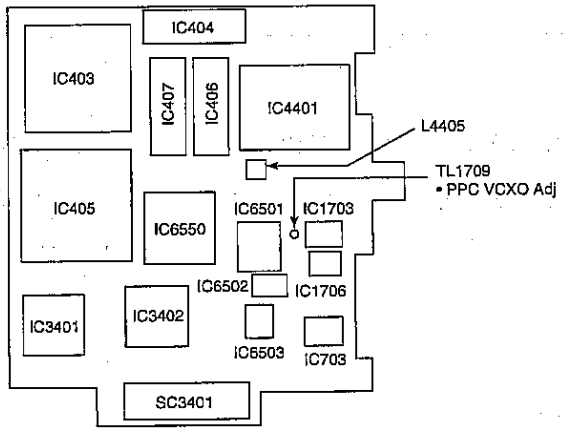
1) Beim Austausch des Mechanismus
2) Beim E²PROM-Austausch (IC303 im der Vorverstärker-Platine)

EINSTELLUNG DES PPC-SCHALTKREISES

1. PPC VCXO-Einstellung

1) Während des Auswechseln der Haupt-Schaltplatine
2) Während des Auswechselns von IC4401 oder L4405

(SCHALTKREISPLATINE SCHAUBILD A)



[Verfahren]

1) Den Kamera- und den Videorecorder-Abschnitt verbinden, so daß das Videosignal der Kamera zugeführt werden kann.
2) Den Ein/Aus-Schalter auf den Kameramodus einstellen.
3) L4405 so einstellen, daß die Gleichspannung an TL1709 3,2 ± 0,1 V beträgt.

EINSTELLUNG DES SCHALTKREISSYSTEMS FÜR ELEKTROMAGNETISCHE UMWANDLUNG

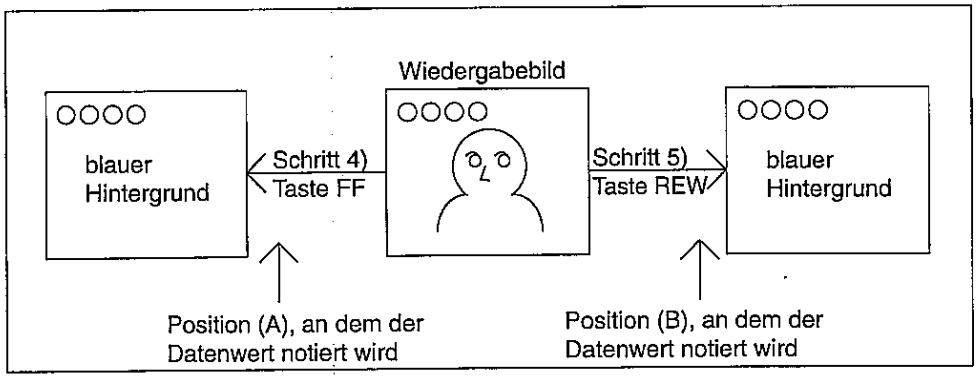
Hinweis: Während der Einstellung des Schaltkreissystems für elektromagnetische Umwandlung R3602 deaktiviert lassen.

1. PLL VCO-Einstellung

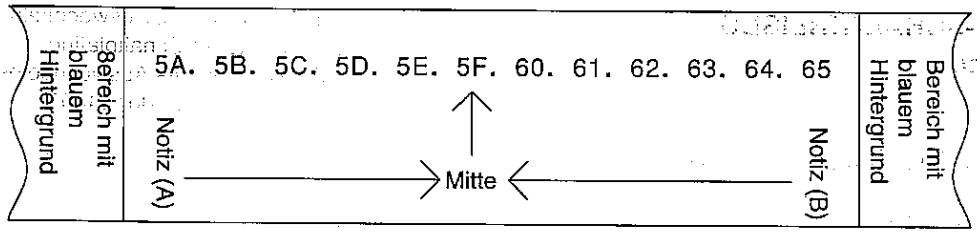
1) Beim Austausch der Schaltkreisplatine (Hauptplatine)
2) Beim E²PROM-Austausch

[Verfahren]

1) Das Abgleichband (oder ein selbst bespieltes Band) wiedergeben.
2) Den Einstellmodus (V-ADJ) aktivieren.
3) Die Adresse auf "2C" einstellen und die Daten abrufen.
4) Mit der Taste FF die abgerufenen Daten ändern, bis das Wiedergabebild zum blauen Hintergrund wechselt. Dann die Daten mit der Taste REW zurück ändern, bis der Datenpunkt gefunden ist, an dem der Bildschirm anfängt, vom blauen Hintergrund zum Wiedergabebild überzugehen. Den an diesem Punkt erhaltenen Datenwert notieren.
5) Wie im obigen Schritt (4) die abgerufenen Daten verändern - dieses Mal mit der Taste REW -, bis das Wiedergabebild zum blauen Hintergrund wechselt. Dann die Daten mit der Taste FF zurück ändern, bis der Datenpunkt gefunden ist, an dem der Bildschirm anfängt, vom blauen Hintergrund zum Wiedergabebild überzugehen. Den an diesem Punkt erhaltenen Datenwert notieren.



6) Aus den Datenwerten, die an den Punkten (A) und (B) notiert wurden, die Mitte dieser Daten berechnen, und mit den Tasten FF oder REW zu diesen Daten gehen.
Beispiel:
Wenn die an den Punkten (A) und (B) notierten Datenwerte 5A bzw. 65 sind:



Die Mitte der Datenwerte ist "5F".

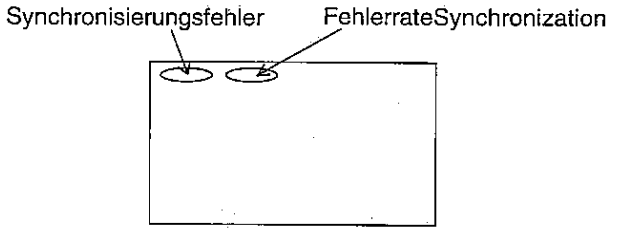
Phasen- und Entzerrer-Einstellung → (im Videorecorder-Modus durchgeführt)
1) Ein selbst bespieltes Band in das Deck einlegen.
2) An der Einstellung-Fernbedienung den Testmodus 0F wählen und einstellennachstehende Ablauf wird automatisch ausgeführt).

VS REW
↓
PB
↓
Phase und Entzerrung werden automatisch eingestellt.
↓
Bewertung

in Ordnung	nicht in Ordnung
blaue LCD leuchtet	rote LCD leuchtet

↓
Cassette wird ausgeworfen

4) Prüfung der Fehlerrate
An der Einstellung-Fernbedienung den Testmodus 0C wählen und einstellen.
5) Verfahren für manuelle Einstellung (Video-Einstellverfahren)
Für die Phase die Daten für die Adresse 2B ändern, und für den Entzerrer die Daten der Adresse 27 ändern, um die Fehlerrate auf das Minimum einzustellen.

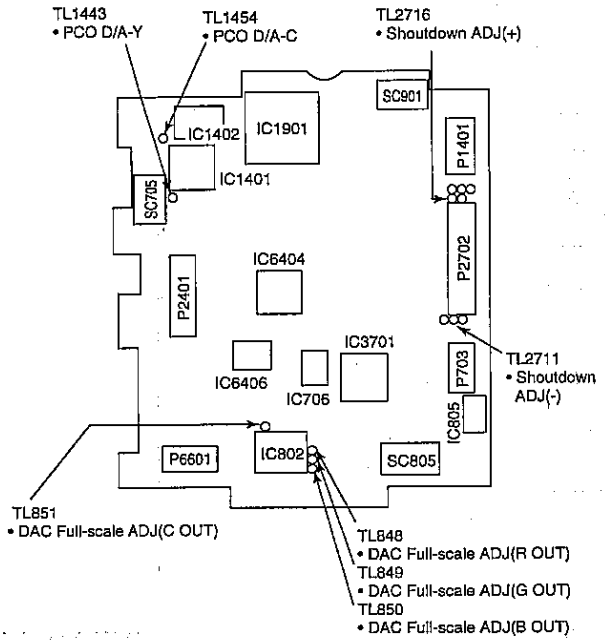


Synchronisierungsfehler	20 oder weniger
Fehlerrate	200 oder weniger

1) Beim Austausch des Mechanismus
2) Beim Austausch der Schaltkreisplatine (Hauptplatine)
3) Beim E²PROM-Austausch

Einstellung des Video-E/A-Schaltkreissystems

(SCHALTKREISPLATINE SCHAUBILD B)



1. Einstellung des E/A-Filters

1) Beim E²PROM-Austausch

[Modus]
EE-Modus für Farbbalkeneingang (Videoleistungsseite)

[Verfahren]
1) Den Einstellmodus (V-ADJ) aktivieren.
2) Die Adresse auf "21" einstellen und die Daten abrufen.
3) Die Daten auf "70" einstellen.

2.PCO D/A-Y Einstellung

1) Beim E²PROM-Austausch

[Modus]
EE-Modus für ein beliebiges Videosignal

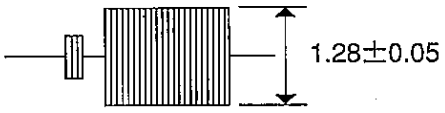
[Prüfpunkt]
TL1443 (an Oszilloskop anschließen)

[Verfahren]
1) Den Einstellmodus (V-ADJ) aktivieren.
2) Die Adresse auf "22" einstellen und die Daten abrufen.
(100 % Weißsignal wird ausgegeben.)
3) Die Daten mit den Tasten FF und REW verändern, um das an TL1443 anliegende Signal auf 1,0 Vss ± 0,05 einzustellen.
* Die Daten müssen im Bereich von 00 bis 60 eingestellt werden.

3. PCO D/A-C Einstellung

1) Beim E²PROM-Austausch

[Modus]
Kein Eingang



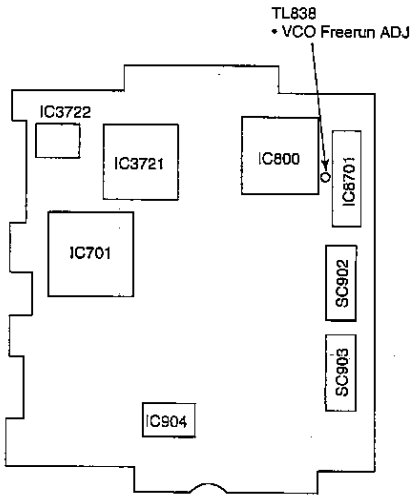
[Prüfpunkt]
TL1454

[Verfahren]
1) Den Einstellmodus (V-ADJ) aktivieren.
2) Die Adresse auf "23" einstellen und die Daten abrufen.
3) Die Daten mit den Tasten FF und REW verändern, um das an TL1454 anliegende Signal auf 1,28 Vss ± 0,05 einzustellen.
* Die Daten müssen im Bereich von 00 bis 60 eingestellt werden.

Einstellung des LCD-Schaltkreises

*Für diese Einstellung den Gegenlicht-Schalter auf "NORMAL" stellen.

(SCHALTKREISPLATINE SCHAUBILD D)



1. VCO Freilauf-Einstellung

[Modus]
V-Eingang vom Videorecorder oder interne Hintergrundbeleuchtung (blau)

[Adresse]
VCR ADJ 32

[Meßpunkt]
TL838 (HSY)

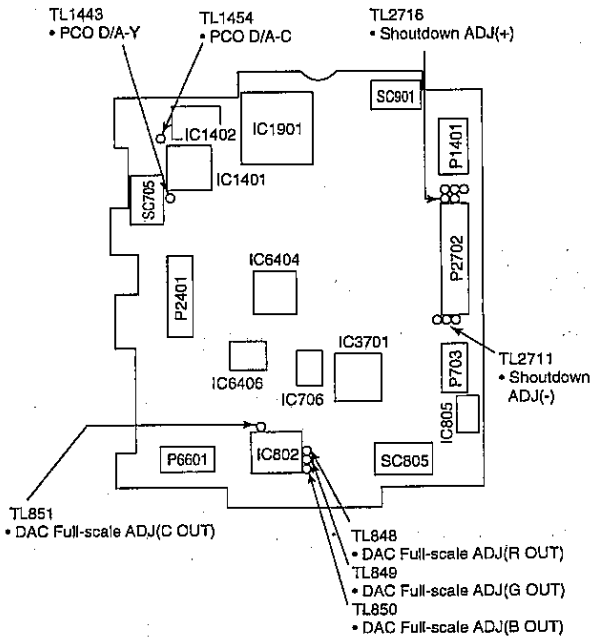
[Einstellwert]
625 kHz ± 100 Hz

[Verfahren]
1) Die VCR ADJ-Adresse 57 von F7 auf FB verändern.
2) Den Frequenzzähler an TL838 anschließen, dann mit der VCR ADJ-Adresse 32 auf den vorgeschriebenen Nennwert einstellen.
3) Die VCR ADJ-Adresse 57 auf F7 einstellen.

Hinweis: Durch Einstellen der Adresse 57 auf F8/F9 wird die Flüssigkristallanzeige ausgeschaltet. Die Veränderung der Daten ist jedoch fortzusetzen. Andernfalls kann der Original-Bildschirminhalt nicht mehr abgerufen werden. In diesem Fall können die Adresse und die Adresse und die Daten nicht auf der Flüssigkristallanzeige überprüft werden.
Um dies zu korrigieren, sicherstellen, daß sich der Geräteschalter auf der Kameraposition befindet, den Anschluß zwischen dem Videoausgang des AV-Packs und Fernsehgerätes vornehmen und die Daten am Fernsehbildschirm überprüfen.

1) Während des Ersetzens des IC706 (E²PROM)

(SCHALTKREISPLATINE SCHAUBILD B)

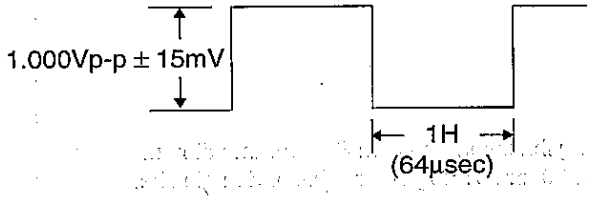


2. DAC Vollbereich-Einstellung

[Modus]
AV-Eingang vom Videorecorder

[Adressen]
VCR ADJ 3E (R/G)
VCR ADJ 3D (B/C)

[Meßpunkte]
TL848 (R OUT)
TL849 (G OUT)
TL850 (B OUT)
TL851 (C OUT)



[Einstellwert]
1,000 Vss ± 15 mV

[Verfahren]
1) Die VCR ADJ-Adressen 47, 49 und 64 zu FE, 7F bzw. 7F ändern. (Die Daten vor dem Ändern notieren.)
2) Mit der VCR ADJ-Adresse 3E die TL848/849-Ausgangsspannung auf den Einstellwert einstellen, und mit dem Synchronisierer die Spitzenspannung auf den Einstellwert einstellen, so daß der Durchschnitt von beiden Prüfpunkt-Spannungen den Mittelwert des Nennwerts ergibt.
3) Mit der VCR ADJ-Adresse 3D die TL850/851-Ausgangsspannung auf den Einstellwert einstellen, und mit dem Synchronisierer die Spitzenspannung auf den Einstellwert einstellen. (Gleich wie im obigen Schritt (2).)
4) Die geänderten Adressendaten zurück auf Normal stellen.
Hinweis: Durch Rückstellung der Daten der einzelnen Adressen auf Normal wird der LCD-Bildschirm weiß. Dann wird der Bildschirm durch Aus- und erneutes Einschalten der Hauptversorgung wieder normal (die Lithiumbatterie sollte entnommen werden).

1) Beim IC706 (E²PROM)-Austausch
2) Während des Ersetzens des IC800

3. COM Vorspannung-Einstellung

[**Modus**]
AV-Eingang vom Videorecorder

[**Adresse**]
VCR ADJ 33

[**Meßpunkt**]
Anzeigebereich der LCD-Tafel

[**Einstellwert**]
Minimum

[**Verfahren**]
1) Das 40 % Weißsignal über die AV-Eingangsbuchsen zuführen.
2) Das Beleuchtungsmeter (TOPCON IM-3) auf die Oberfläche der LCD-Tafel stellen. (Externes Licht darf nicht eindringen.)
3) Die Welligkeit der Ausgangswellenform am Beleuchtungsmeter auf Minimum einstellen.

Ansprechzeit: 0,6 s

Oder das Graustufenmustersignal zuführen und den schwarzen Bereich auf größte Schwärze einstellen.

[**Anmerkungen**]
Diese Einstellung nach einer Alterung von mindestens 5 Minuten durchführen.

1) Beim IC706 (E²PROM)-Austausch
2) Beim Austausch der Schaltkreisplatine (Hauptplatine)
3) Beim LCD-Austausch
4) Beim IC800-Austausch

4. W/B AJD

[**Modus**]
AV-Eingang vom Videorecorder

[**Adresse**]
VCR ADJ 30 (R)
VCR ADJ 31 (B)

[**Meßpunkt**]
Anzeigebereich der LCD-Tafel

[**Einstellwert**]
Beruhend auf dem Standardmonitor

[**Verfahren**]
1) Das 40 % Weißsignal über die AV-Eingangsbuchsen und zum Standardmonitor zuführen.
2) Den Farbton mit den VCR ADJ-Adressen 30 und 31 abgleichen, bis er den gleichen Farbton wie beim Standard-Monitor hat.

[**Anwendungen**]
Diese Einstellung nach 5 Minuten oder längerer Alterung vornehmen.

1) Beim IC706 (E²PROM)-Austausch
2) Beim Austausch der Schaltkreisplatine (Hauptplatine)
3) Beim LCD-Austausch
4) Beim IC800-Austausch

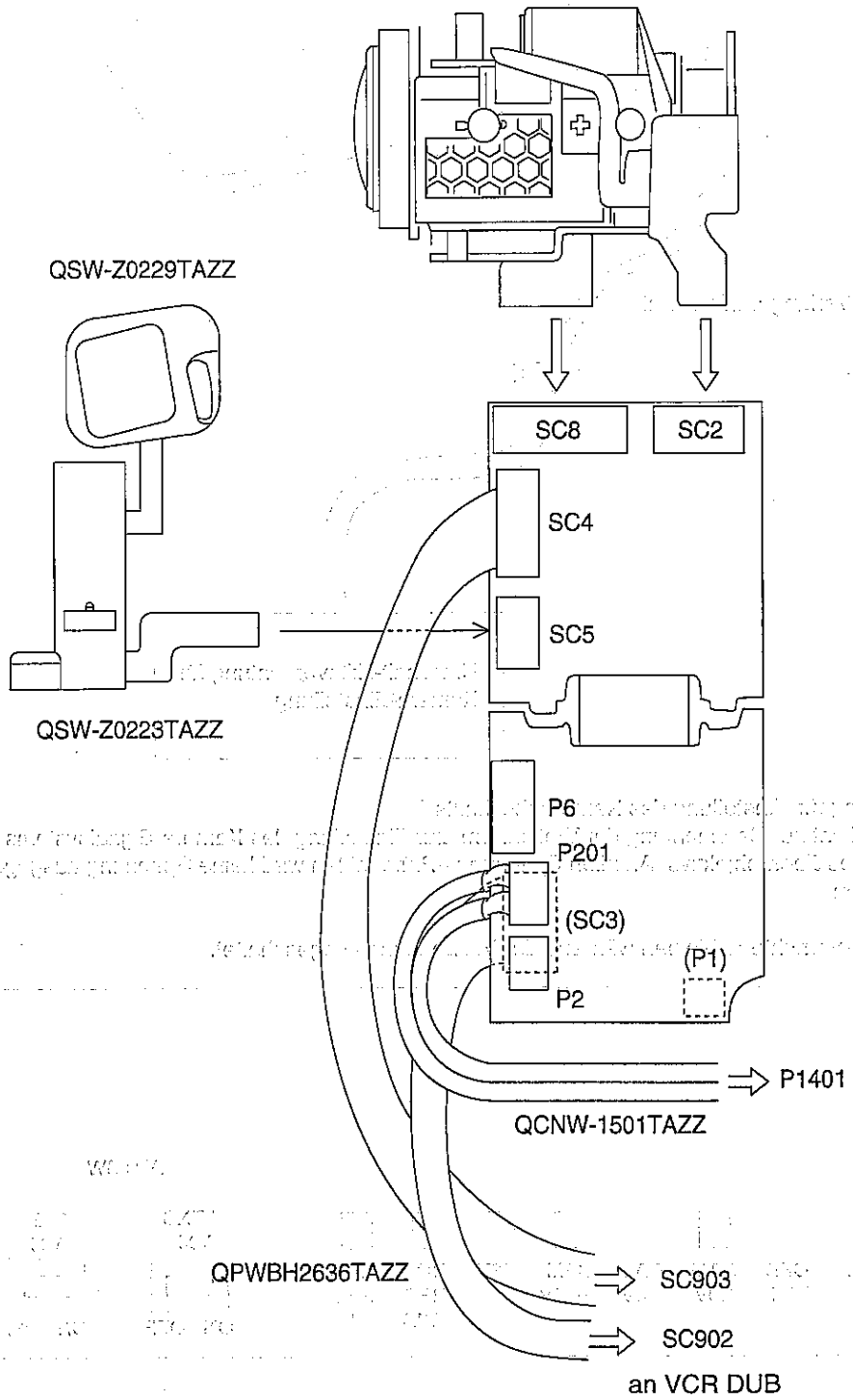
9-2. Einstellungen des Kameraabschnitts

9-2-1. Wartung am Kameraabschnitt

(1) Teile, Meßinstrumente und Hilfsvorrichtungen, die für Wartung und Einstellung des Kameraabschnitts erforderlich sind:

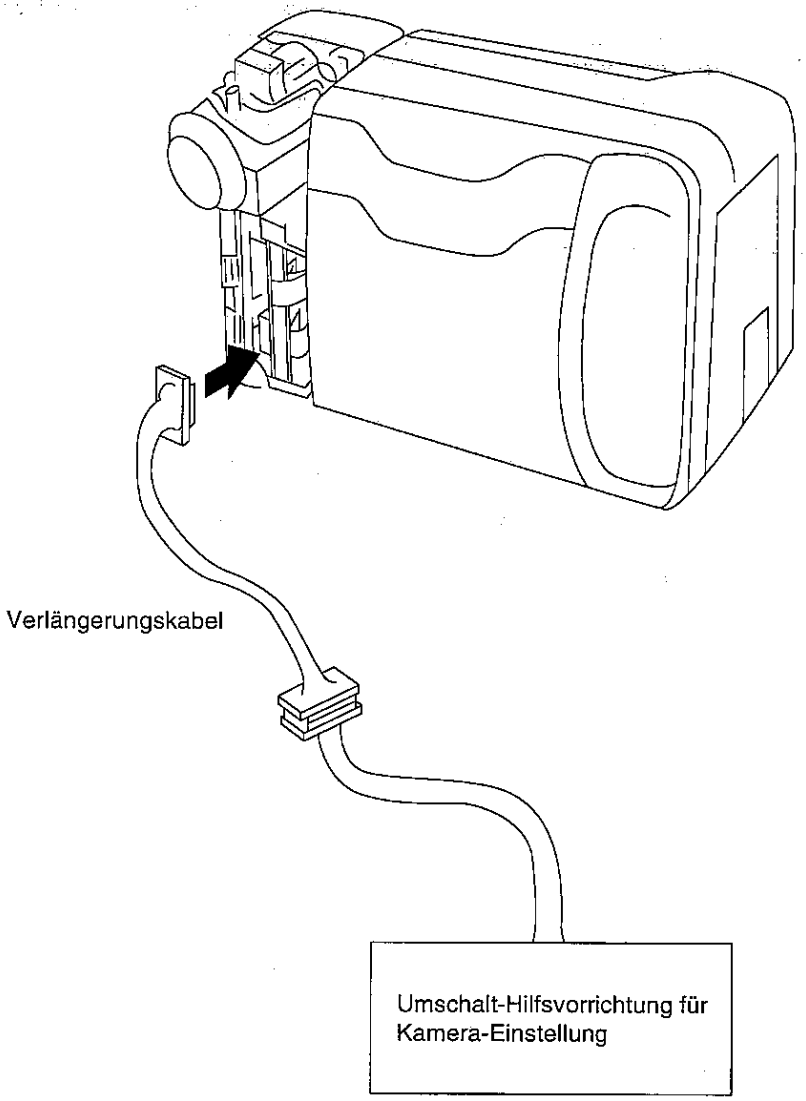
- Graustufenkarte
- Weißkarte
- Farbbalkenkarte
- Oszilloskop
- Digitales Voltmeter
- Vektorskop
- Frequenzzähler
- Beleuchtungsmeter
- Farbtemperaturmeter
- Farbvideomonitor
- Videoausgangskabel
- Netzadapter
- Verlängerungskabel
- Schalter-Hilfsvorrichtung für Einstellzwecke
- Fernbedienung für Wartung
- Gleichstromquelle
- Beleuchtungskasten
- INF-Einstellobjektiv
- Halogenlampen (2)

(2) Standard-Anschlußdiagramm für Kamerawartung



(3) Anschlüsse für Einstellung der Kamera

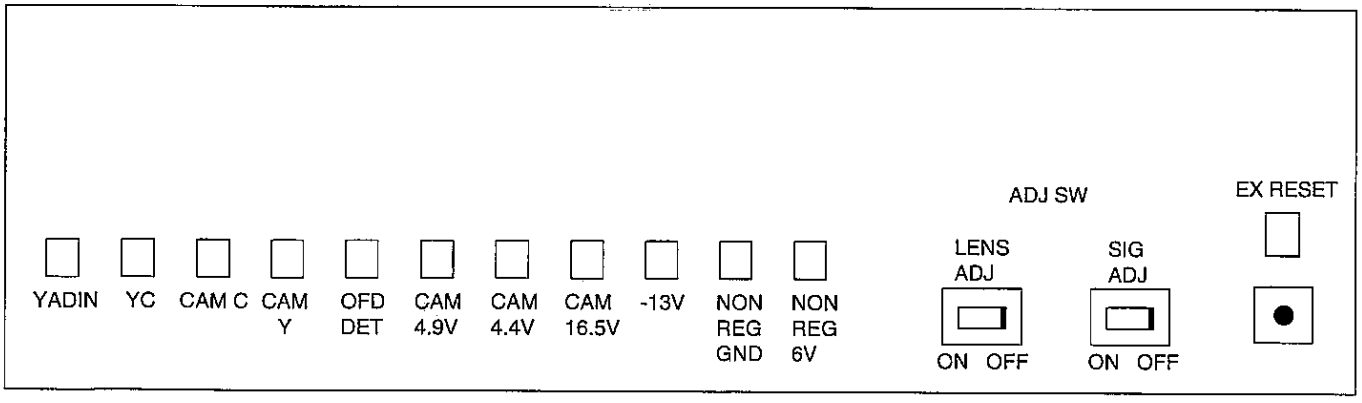
Zur Einstellung der Kamera das Gehäusevorderteil der Kamera entfernen. Dann Steckverbinder P6 auf der Kamera-CBA mit der Schalter-Hilfsvorrichtung für Einstellung über ein Verlängerungskabel verbinden.



(4) Umschalt-Hilfsvorrichtung für Einstellung des Kameraabschnitts

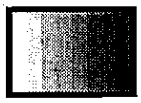
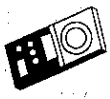
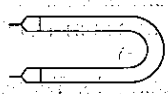
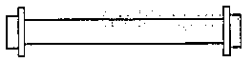
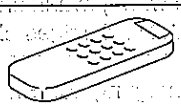
Diese Hilfsvorrichtung dient zur Beobachtung der Wellenform, zur Einstellung des Kamera-Signalsystems und zur Autofokus-Einstellung des Zoomobjektivs. An allen Spannungs-Prüfpunkten wird keine Spannung ausgegeben. Dies ist jedoch keine Fehlfunktion.

Alle Schalter an der Hilfsvorrichtung bleiben während der Verwendung ausgeschaltet.



9-2-2. Liste der Hilfsvorrichtungen und Werkzeuge für die Kamera

Hinweis: N kennzeichnet eine neue Hilfsvorrichtung.

Nr.	Bezeichnung der Hilfsvorrichtung	Teilecode	Aussehen	Anmerkung
1	Graustufenkarte (390 x 520 mm)	JiGCHART-1		
2	Farbbalkenkarte (240 x 320 mm)	JiGCHART-4		
3	Beleuchtungsmeter (0 bis 3000 Lux)	JiGMETER-1		
4	Farbtemperaturmeter (1600 bis 400.000 Grad K)	JiGMETER-2		
5	Farbtemperatur-Wandlungsfilter (3200 Grad K → 6800 Grad K)	JiGHOYA-LB165		
6	PC-Plattenanschluß-Zieher	JiGTH-SS10		
7	Umschaltplatte für Kamera-Einstellung (QCNW-1200TAZZ)	QCNW-1220TAZZ		
8	Verlängerungskabel (Umschaltplatte für Kamera-Einstellung ↔ P6)	QCNW-1368TAZZ	 26polig (13polig) 20polig	N
9	Fernbedienung für Wartung	RRMCG0033TASA		

9-2-3. Einstellung der Kameraeinheit

(1) Vorbereitungen für Einstellung und zu überprüfende Punkte

1) Den Beleuchtungskasten so einstellen, daß das gesamte Muster gleichmäßig ausgeleuchtet ist. Die Farbtemperatur auf 3200°K einstellen.
2) Testmuster verwenden, die nicht schmutzig oder verfärbt sind.
3) Wenn ein Problem der elektrischen Schaltkreise vorliegt, die problematische Stelle mit einem Meßinstrument bestimmen und das defekte Teil reparieren oder ersetzen.

(2) Fernbedienung für Wartung RRMCG0033TASA

Zum Einstellen des Kameraabschnitts dieses Geräts wird die Fernbedienung für Wartung (RRMCG0033TASA) verwendet. Die Einstellung erfolgt derart, daß die Fernbedienung die erforderlichen Daten über den Mikroprozessor in die jeweiligen Adressen des E²PROM (ROM der Objektiveinheit) schreibt.

1) Einstellen der Kamera:
Zuerst die Taste "CONTINUE" und dann die Taste "CAM ADJ" betätigen.
Dadurch wird

CAM ADJ
□□□□

auf dem LCD-Bildschirm angezeigt, und die Kameraeinheit ist bereit für die Einstellungen.

2) Beschreibung der Anzeigen

CAM □□□□ (Adressenwert) ADJ □□□□ (Datenwert) (Kennzeichnet den Kamera-Einstellmodus.)

* Die Adressenwerte für dieses Gerät reichen von 0000 bis 02FF.
* Die Daten umfassen 1-Byte-Daten (die beiden letzten Stellen sind wirksam) und 2-Byte-Daten (die drei letzten Stellen sind wirksam).

3) Beschreibung der Tasten der Fernbedienung

Taste "FF": Erhöhung des Adressen- und Datenwerts
Taste "REW": Verringerung des Adressen- und Datenwerts
Taste "PLAY": Bestimmung von Adressen und Abrufen von Daten
Mit dieser Taste werden auch die Datenwerte gespeichert (d.h. in den E²PROM geschrieben).
Taste "STOP": Löscht die Daten, so daß Adressenwahl möglich ist.

4) Bedienungsablauf

→ FF oder REW ⟶ PLAY ⟶ FF oder REW ⟶ PLAY ⟶ STOP
Die Adresse wird gewählt und eingestellt, dadurch werden die Daten abgerufen. Dann werden die abgerufenen Daten gewählt und eingestellt. Der Ablauf erfolgt in dieser Reihenfolge.

5) Bei Beendigung der Einstellung:
Die Taste "CONTINUE" drücken, so daß "CAM ADJ" vom Bildschirm verschwindet.
Hinweis: Vor Beendigung der Einstellung muß sichergestellt werden, daß der Einstellmodus weder der Einstellmodus für die Autofokusfunktion noch der Einstellmodus für das Kamerasignalsystem ist (diese Modi werden später erwähnt).

- Einstellmodi für Kameraeinheit
Die Kameraeinheit wird in zwei verschiedenen Arten von Modi eingestellt: Einstellmodus für die Autofokusfunktion und Einstellmodus für das Kamerasignalsystem.

(3) Einstellmodus für Autofokusfunktion

- Die Kamera arbeitet mit einem Zoomobjektiv, das von einem Mikroprozessor gesteuert wird. Der Autofokus-Schaltkreis in diesem Gerät führt Bildverarbeitung aus, wobei die Fokussierung unter Ausnutzung der Tatsache erfolgt, daß die Hochfrequenzanteile im Bildsignal bei stärkerer Fokussierung zunehmen. Zur Erzielung einer hohen Vergrößerungsleistung mit einem kleinen Objektiv ist die Kameraeinheit mit einem Innenfokussiersystem versehen, indem der Brennpunkt durch Bewegen der Hauptlinse (hintere Linse) verschoben wird. Das Innenfokussiersystem ist eine Vollbereich-Fokussierausführung, bei der der Brennpunkt von etwa 10 mm bis unendlich versetzt werden kann. Es muß jedoch beachtet werden, daß, da der kleinste Motivabstand bei Tele-Einstellung 1,5 mm beträgt, Motive in einem kürzeren Abstand als 1,5 mm bei Tele-Einstellung unscharf sind. Aus diesem Grund ist das Gerät so ausgeführt, daß die Zoomsteuerung automatisch auf Weitwinkel umgestellt wird, bis die Position festgestellt wird, an der das Motiv scharf eingestellt werden kann.

Beim Autofokussystem dieses Geräts spielen die folgenden Faktoren eine wichtige Rolle:

- Hauptlinsenposition-Erfassungsdaten
- Blendenposition-Erfassungsdaten
- Zoomobjektivposition-Erfassungsdaten

Diese Erfassungsdaten werden vom Mikroprozessor verarbeitet und einzeln für jede Linse im E²PROM gespeichert. Daher ist in den folgenden Fällen eine Einstellung der Autofokusfunktion erforderlich:

- Wenn das Objektiv ausgetauscht wurde
- Wenn die CCD ausgetauscht wurde
- Wenn der E²PROM (in der Objektiveinheit) ausgetauscht wurde

1) Umschalten in den Autofokusfunktion-Einstellmodus

Die Daten für die Adresse "02FE" auf "☐☐01" einstellen.

⇩

Dadurch wird der Bildschirm vorübergehend weiß, und es wird in den Autofokusfunktion-Einstellmodus geschaltet

* Wenn in diesen Einstellmodus geschaltet wurde, die Einstellungen gemäß (5) Kameraeinheit-Einstellverfahren vornehmen.
* In diesem Einstellmodus kann das Objektiv nicht bedient werden.

2) Umschalten in den Normalmodus

Die Daten für die Adresse "02FE" auf "☐☐FF" einstellen.

⇩

Dadurch wird der Bildschirm vorübergehend weiß, und es wird in den Normalmodus geschaltet.

⇩

Die Taste "CONTINUE" drücken, dann verschwindet "CAM ADJ" vom Bildschirm, und normaler Betrieb ist wieder möglich.

(4) Kamerasignalsystem-Einstellmodus

Im Kamerasignalsystem-Einstellmodus wird die automatische Weißbalance deaktiviert, um die Einstellung der Kameraeinheit zu ermöglichen. Dabei ist die Weißbalance fest auf INDOORS eingestellt, und der Fokusmodus wird auf manuelle Fokussierung umgeschaltet.

1) Umschalten in den Kamerasignalsystem-Einstellmodus

Die Daten für die Adresse "02FE" auf "☐☐00" einstellen.

⇩

Dadurch wird der Modus in den Autofokusfunktion-Einstellmodus geschaltet.

* Wenn in diesen Einstellmodus geschaltet wurde, die Einstellungen gemäß (5) Kameraeinheit-Einstellverfahren vornehmen.

2) Umschalten in den Normalmodus

Die Daten für die Adresse "02FE" auf "□□ FF" einstellen.

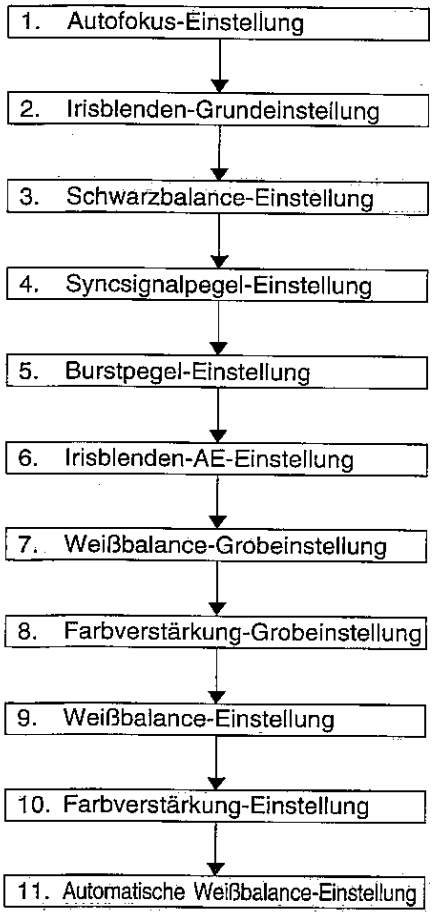
⇩

Dadurch wird in den Normalmodus geschaltet.

⇩

Die Taste "CONTINUE" drücken, dann verschwindet "CAM ADJ" vom Bildschirm, und normaler Betrieb ist wieder möglich.

(5) Kameraeinheit-Einstellverfahren



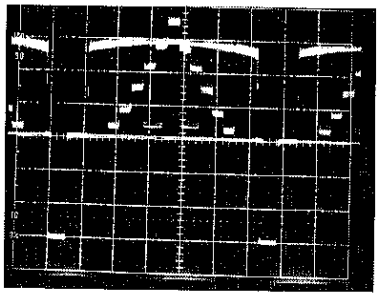
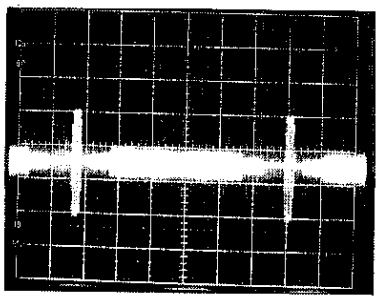
* Die obigen Einstellungen 1. Autofokus-Einstellung und 2. Irisblenden-Grundeinstellung werden im Autofokusfunktion-Einstellmodus durchgeführt, während die anderen Einstellungen im Kamerasignalsystem-Einstellmodus erfolgen.

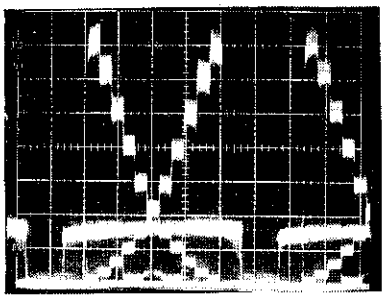
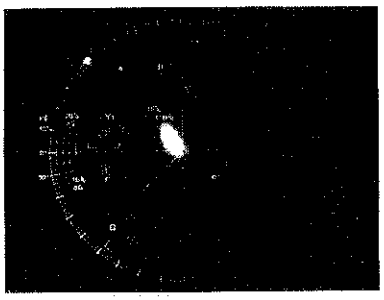
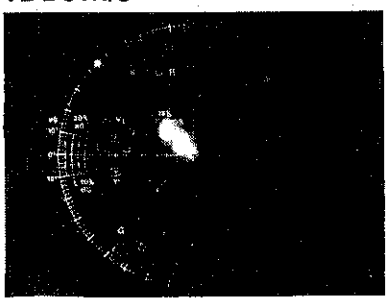
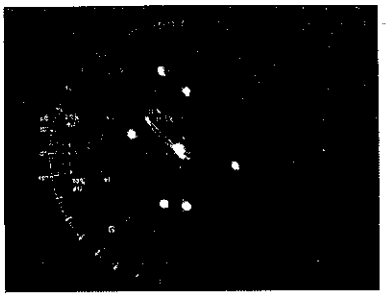
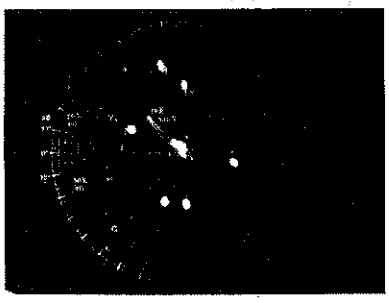
9-2-4. Einstellverfahren

<table>
<tr><th>Gegenstand</th><th>Einstellverfahren</th></tr>
<tr><td>(1) Autofokus-Einstellung</td><td>
Das Gerät in den Autofokusfunktion-Einstellmodus schalten und die Daten nacheinander in die Adresse "02FF" schreiben. Dadurch werden die Einstellungen automatisch ausgeführt. Die einzustellenden Elemente sind unten aufgeführt. Bei jeder einwandfreien Einstellung wird der Datenwert "FF" in die Adresse geschrieben. Nach jeder Einstellung prüfen, ob die Einstellung einwandfrei erfolgte, und dann zum nächsten Einstellelement weitergehen.
<table>
<tr><th>Adresse</th><th>Daten</th><th>Einstellelementitem</th></tr>
<tr><td>02FF</td><td>000C</td><td>Einstellung der Linearität</td></tr>
<tr><td></td><td>0006</td><td>Einstellung der Fokusposition ∞ bei Weitwinkel-Einstellung</td></tr>
<tr><td></td><td>0008</td><td>Einstellung der Fokusposition ∞ bei Tele-Einstellung</td></tr>
</table>
Hinweis 1: Die Einstellung der Position Ï erfolgt durch tatsächliche Erfassung des Bilds eines Motivs. Für diese Einstellung ein Motiv mit einem deutlichen Profil verwenden. Insbesondere kann, wenn die Einstellung der Position ∞ in Tele-Position ohne Erfassung eines entfernten Motivs erfolgt, die Einstellung unter Umständen nicht einwandfrei durchgeführt werden.
Einstellung der Fokusposition ∞ bei Weitwinkel-Einstellung:
3 m oder mehr
Einstellung der Fokusposition ∞ bei Tele-Einstellung:
50 m oder mehr

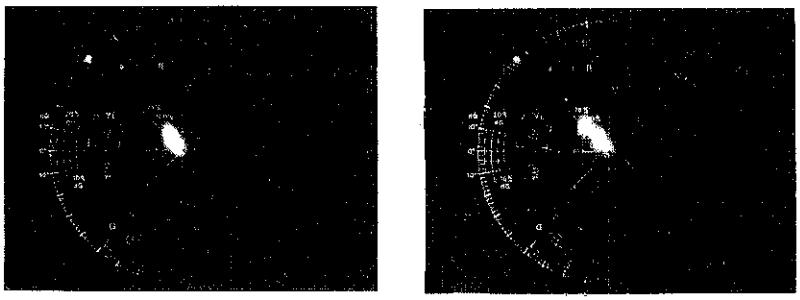
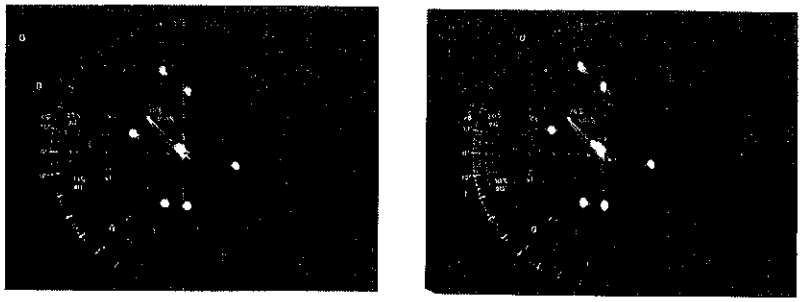
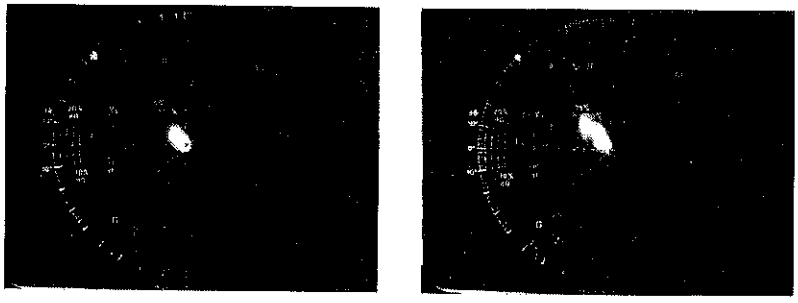
Hinweis 2: Bei der Einstellung der Position Ï ist die Feldtiefe wichtig, um eine genaue Einstellung zu erhalten. Bei großer Feldtiefe wird die Fokussierung zu stabil, wodurch eine nicht einwandfreie Einstellung der Position Ï resultieren kann. Daher muß die Einstellung mit geringer Feldtiefe (bei geöffneter Irisblende) durchgeführt werden.

Die Irisblende kann mit einem hochschnellen Verschluß wie folgt ausgelöst werden:
1. In den normalen Betriebsmodus zurückschalten.
2. Den hochschnellen Verschluß im normalen Betriebsmodus betätigen, bis die Irisblende ausgelöst wird. (Siehe die Bedienungsanleitung.)
3. Mit der Fernbedienung für Wartung "CMA ADJ" auf den Bildschirm rufen.
4. In den Autofokusfunktion-Einstellmodus schalten.
5. Die Einstellung der Position ∞ durchführen.
6. Nach den Einstellungen den hochschnellen Verschluß zurück in den Normalmodus schalten.
</td></tr>
<tr><td>2) Irisblenden-Grund-Einstellung</td><td>
Dies dient zur Einstellung des Betriebspunkts des Öffnungselements im Irismeter des Objektivs.
Das Gerät in den Autofokusfunktion-Einstellmodus schalten und die Daten nacheinander in die Adresse "02FF" schreiben. Dadurch werden die Einstellungen automatisch ausgeführt. Die einzustellenden Elemente sind unten aufgeführt. Bei jeder einwandfreien Einstellung wird der Datenwert "FF" in die Adresse geschrieben
<table>
<tr><th>Adresse</th><th>Daten</th><th>Einstellelementitemitem</th></tr>
<tr><td>02FF</td><td>0009</td><td>Einstellung für Saal-Versatz</td></tr>
<tr><td></td><td>000A</td><td>Einstellung für Irisblenden-Versatz</td></tr>
<tr><td></td><td>000B</td><td>Einstellung für Irisblenden-Schließung</td></tr>
</table>
</td></tr>
</table>

Gegenstand	Einstellverfahren
(3) Schwarzbalance-Einstellung	1) Vor der Einstellung die Daten für die Adressen "01E4" bis "01E9" initialisieren. "□□FF" (die beiden letzten Stellen sind wirksam) in alle diese Adressen schreiben. 2) Im Kamerasignalsystem-Einstellmodus (der Datenwert "□□00" ist in die Adresse "02FE" geschrieben) den Datenwert "□□01" in die Adresse "02FF" schreiben. Dadurch startet die Einstellung automatisch. Wenn die Einstellung beendet ist, wird der Datenwert "00FF" automatisch geschrieben. 3) Die Daten berechnen. Adresse / Verarbeitung 01E4: Schreibt Datenwert minus 03 (Subtraktion) 01E5: Schreibt Datenwert minus 03 (Subtraktion) 01E6: Schreibt Datenwert minus 08 (Subtraktion) 01E7: Schreibt Datenwert minus 02 (Subtraktion) 01E8: Schreibt Datenwert minus 05 (Subtraktion) 01E9: Schreibt Datenwert minus 09 (Subtraktion)
(4) Syncsignalpegel-Einstellung Meßanschluß : CAM Y Adresse : "01F8" YGAIN_CAM Meßinstrument : Oszilloskop (Horizontalzyklus) Aufnahmemotiv : beliebig Datenbereich : "0000" - "00FE"	1) Bei abgeschirmtem Objektiv den Videoausgang am Oszilloskop anzeigen und den Datenwert für die Adresse "01F8" so schreiben, daß der SYNCH-Pegel auf 300 ± 10 mVss eingestellt wird. Hinweis: Beim Ändern der Daten kann der Bildschirm verzerrt sein. Dies ist keine Fehlfunktion. 
(5) Burstpegel-Einstellung Meßanschluß : CAM C Adresse : "01F9" CGAIN_CAM Meßinstrument : Oszilloskop (Horizontalzyklus) Aufnahmemotiv : beliebig Datenbereich : "0000" - "00FE"	1) Den Videoausgang am Oszilloskop anzeigen und den Datenwert für die Adresse "01F9" so schreiben, daß der Burstpegel auf 300 ± 20 mVss eingestellt wird. 

Gegenstand	Einstellverfahren
(6) Irisblenden-AE-Einstellung Meßanschluß : Y-ADIN Adresse : "02FD" AE_CVT Meßinstrument : Oszilloskop (Horizontalzyklus) Aufnahmemotiv : Grauskala Datenbereich : "0000" - "00FE"	1) Das Gerät in den Standard-Graustufen-Aufnahmemodus schalten, den Videoausgang am Oszilloskop anzeigen und den Datenwert für die Adresse "02FD" so schreiben, daß der Helligkeit-Signalpegel 700 ± 20 mVss beträgt. 
(7) Weißbalance-Grobeinstellung Meßanschluß : EE OUT Adresse : "0010" INDOOR_R "0012" INDOOR_B Meßinstrument : Vektorskop Aufnahmemotiv : Weißkarte Datenbereich : "0000" - "03FF"	1) Die Weißkarte aufnehmen und die Zoomposition so einstellen, daß der Helligkeitspegel so linear wie möglich ist. 2) Die Daten der Adressen 0010 und 0012 ändern, so daß der helle Fleck auf dem Bildschirm des Vektorskops 10 % (VL-DC1E), 20 % (VL-DC1H/S) entlang der Achse R-Y und -10 % (VL-DC1E), -20 % (VL-DC1H/S) entlang der Achse B-Y im Burstverhältnis beträgt. **VL-DC1E**  **VL-DC1H/S** 
(8) Farbverstärkung-Grobeinstellung Meßanschluß : EE OUT Adresse : "0106" CGIN RYG "0104" CGIN BYG "0102" CMAT RYG "0100" CMAT BYG Meßinstrument : Vektorskop Aufnahmemotiv : Farbbalkenkarte Datenbereich : "0000" - "007F"	1) Die Farbbalkenkarte aufnehmen und den Blickwinkel so einstellen, daß der Weißpegel 600 mV beträgt. Die Karte auf dem Bildschirm des Vektorskops ansehen. Die Daten der Adressen 106, 104, 100 und 102 so ändern, daß die hellen roten und blauen Flecke den nachstehenden Angaben entsprechen. (Die Burstverstärkung muß an der 75 % Amplitude entlang der Achse B-Y auf dem Bildschirm des Vektorskops eingestellt werden.) **VL-DC1E**  **VL-DC1H/S** 

	VL-DC1E	VL-DC1H/S	Adresse für Einstellung
Rot-Amplitude	1,75 ± 0,1 (Burstverhältnis)	1,85 ± 0,1 (Burstverhältnis)	"0106"
Blau-Amplitude	1,05 ± 0,1 (Burstverhältnis)	1,00 ± 0,1 (Burstverhältnis)	"0104"
Rot-Phase	104° ± 2°	105° ± 2°	"0100"
Blau-Phase	345° ± 2°	347° ± 2°	"0102"

Gegenstand	Einstellverfahren
(9) Weißbalance-Einstellung Meßanschluß : EE OUT Adresse : "0010" INDOOR R "0012" INDOOR B Meßinstrument : Vektorskop Aufnahmemotiv : Grauskala Datenbereich : "0000" - "03FF"	1) Die Weißbalance-Einstellung wiederholen. **VL-DC1E** **VL-DC1H/S** 
(10)Farbverstärkung-Einstellung Meßanschluß : EE OUT Adresse : "0106" CGIN RYG "0104" CGIN BYG "0102" CMAT RYG "0100" CMAT BYG Meßinstrument : Vektorskop Aufnahmemotiv : Farbbalkenkarte auf Wellenform-Monitor Datenbereich : "0000" - "003F"	1) Die Farbverstärkung-Einstellung wiederholen. **VL-DC1E** **VL-DC1H/S** 
(11)Automatische Weißbalance-Einstellung Meßanschluß : EE OUT Adresse : "0016" OUTDOOR R "0018" OUTDOOR B Meßinstrument : Vektorskop Aufnahmemotiv : Grauskala Datenbereich : "0000" - "03FF"	1) Den Farbtemperatur-Wandlungsfilter (LB165) an das Objektiv ansetzen. 2) Die Weißkarte aufnehmen und die Zoomposition so einstellen, daß der Helligkeitspegel so linear wie möglich wird. 3) Die Daten der Adressen 0016 und 0018 ändern, um die Einstellung der Weißbalance für Draußen vorzubereiten. **VL-DC1E** **VL-DC1H/S** 

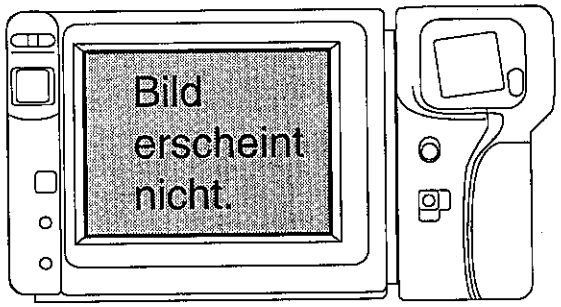
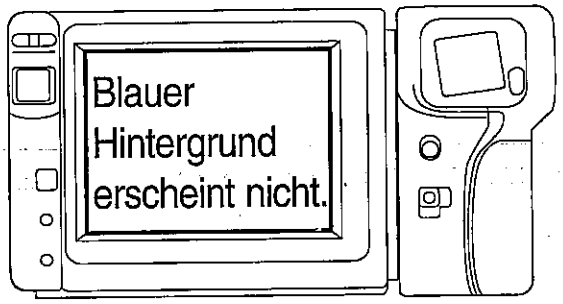
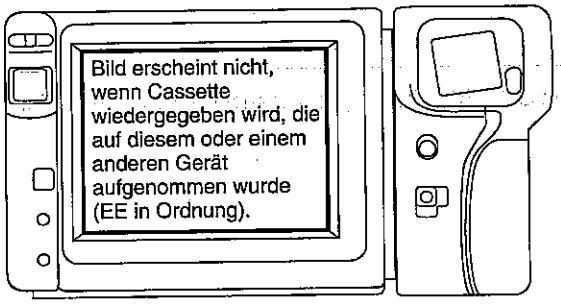
	VL-DC1E	VL-DC1H/S
R-Y	10 ± 5 % (Burstverhältnis)	20 ± 0,1 (Burstverhältnis)
B-Y	- 10 ± 5 % (Burstverhältnis)	- 20 ± 0,1 (Burstverhältnis)

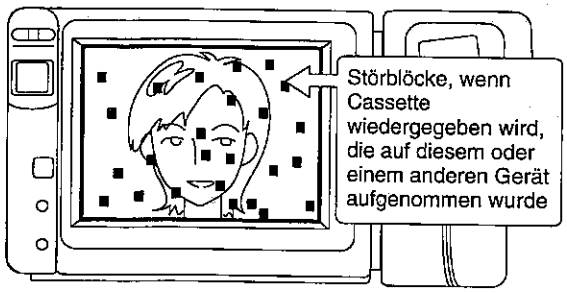
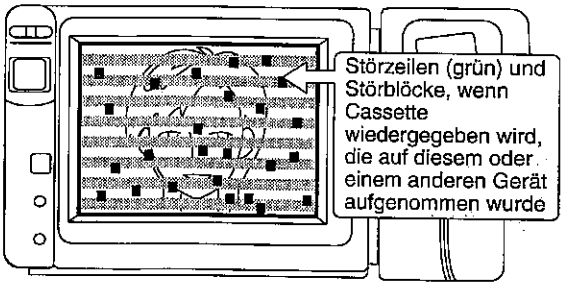
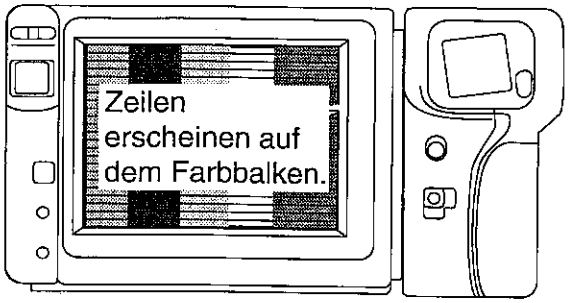
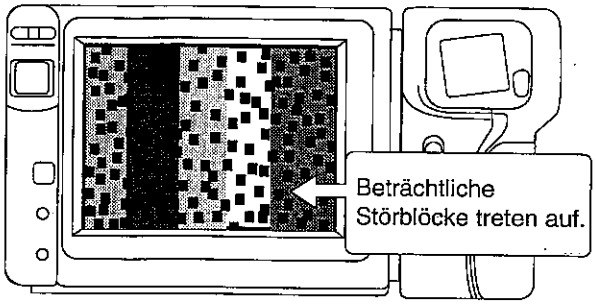
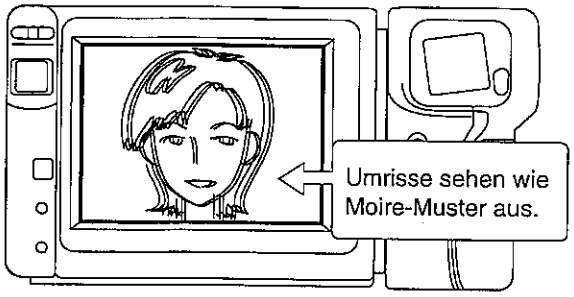
	VL-DC1E	VL-DC1H/S
Rot-Amplitude	1,75 ± 0,1 (Burstverhältnis)	1,85 ± 0,1 (Burstverhältnis)
Blau-Amplitude	1,05 ± 0,1 (Burstverhältnis)	1,00 ± 0,1 (Burstverhältnis)
Rot-Phase	104° ± 2°	105° ± 2°
Blau-Phase	345° ± 2°	347° ± 2°

	VL-DC1E	VL-DC1H/S
R-Y	10 ± 5 % (Burstverhältnis)	20 ± 5 (Burstverhältnis)
B-Y	- 10 ± 5 % (Burstverhältnis)	- 15 ± 5 (Burstverhältnis)

Nachdem die Einstellungen beendet sind, das Gerät zurück in den Normalmodus schalten (d.h. den Datenwert "☐☐ FF" in die Adresse "02FE" schreiben).

10. NÜTZLICHE HINWEISE (DIE PROBLEME UNTERSCHEIDEN SICH VON VHS- UND 8 MM-DECKS, WEIL DIE SIGNALE DIGITAL VERARBEITET WERDEN.)

Probleme	Hauptschaltkreise zum Überprüfen
Kamera (EE-Modus) 	• CCD • Kameraschaltkreis (CDS, ADC, DSP) • PCI (IC4401, IC4402) • PTC (IC4411) • LCD_DSP (IC800) • Mikroprozesser für grafische Benutzerschnittstelle (IC3721)
Videorecorder (EE-Modus) 	• PTC (IC4411) • Mechanische Steuerung (IC702) • LCD_DSP (IC800) • Mikroprozesser für grafische • Benutzerschnittstelle (IC3721)
Kamera (Aufnahmemodus) Videorecorder (Wiedergabemodus) 	• PTC (IC4411) • CODEC 1 und 2 (IC401, IC411) • Transport 1 (IC405)
Kamera (Aufnahmemodus) Videorecorder (Wiedergabemodus) 	• Transport 2 (IC408) • PLL (IC3401) • ATF (IC3402) • Kopfverstärker (IC301) • Videokopf verschmutzt oder defekt.

Probleme	Hauptschaltkreise zum Überprüfen
Kamera (Aufnahmemodus) Videorecorder (Wiedergabemodus)  	• Transport 2 (IC408) • PLL (IC3401) • ATF (IC3402) • Kopfverstärker (IC301) • Videokopf verschmutzt oder defekt
Videorecorder (Wiedergabemodus) + Farbbalken 	• Daten zwischen CODEC 1 (IC401) und Co-Deck 2 (IC411) fehlen.
Videorecorder (Wiedergabemodus) + Farbbalken 	• Daten zwischen CODEC 2 (IC411) und Transport 1 (IC405) fehlen.
Kamera (EE-Modus) 	• Y-Daten zwischen Kamera DSP (IC201) und LCD_DSP (IC800) fehlen.

1. 規格參數

訊號製式：PAL制式
錄影系統：雙旋轉磁頭，螺旋掃描系統
錄影帶：數位錄影機迷你DV錄影帶
最大攝錄/放影時間：60分鐘(DVM60)
錄影帶速度：18.831毫米/秒
攝錄元件：1/4英寸(6.4毫米，有效尺寸：4.5毫米)CCD畫像傳感器(包括光學黑區大約有470,000個畫素)
鏡頭：12倍電動變焦(F＝1.8，f＝4.2～50.4毫米)，全範圍自動對焦
濾色鏡接口直徑：37毫米
監視器：4英寸(10.1厘米)全彩色液晶屏幕(TFT動態矩陣)
麥克風：駐極電容式立體聲麥克風
色溫補償：自動白色平衡和白色平衡鎖定
最小照明亮度：6勒克司*(不使用增益和數位變焦功能)
視頻輸出電平：1伏峰峰值，75歐姆不平衡
音頻輸出電平：－8分貝，阻抗小於2.2千歐姆
喇叭輸出：300毫瓦
外接麥克風輸入：直徑3.5毫米的微小插頭，－66分貝，輸出阻抗6.8千歐姆，4伏直流電提供給電源內藏式麥克風使用
電源：直流3.6伏
耗電量：8.5瓦(在攝錄放影機全自動攝錄狀態、電動變焦關掉和後照明處於正常狀態時)
工作溫度：0℃到＋40℃
工作濕度：30%到80%
保存溫度：－20℃至＋60℃
尺寸：181毫米(寬)×99毫米(高)×88毫米(深)
重量(大約)：690克(沒裝充電池、鋰電池和錄影時)

交流轉換器/充電器

電源：交流110伏～240伏，50/60赫茲
直流輸出：4.5伏
耗電量：25瓦
尺寸(大約)：120毫米(寬)×51毫米(高)×101.5毫米(深)

型號VL-DC1E：
重量(大約)：適用於亞洲/中東(UADP-0233TAZZ)：394克
：適用於香港(UADP-0219TAZZ)：460克
：適用於澳大利亞/新西蘭(UADP-0216TAZZ)：420克
：適用於俄羅斯(UADP-0235TAZZ)：394克

型號VL-DC1H：
重量(大約)：(UADP-0215TAZZ)：460克

型號VL-DC1S：
重量(大約)：(UADP-0214TAZZ)：380克

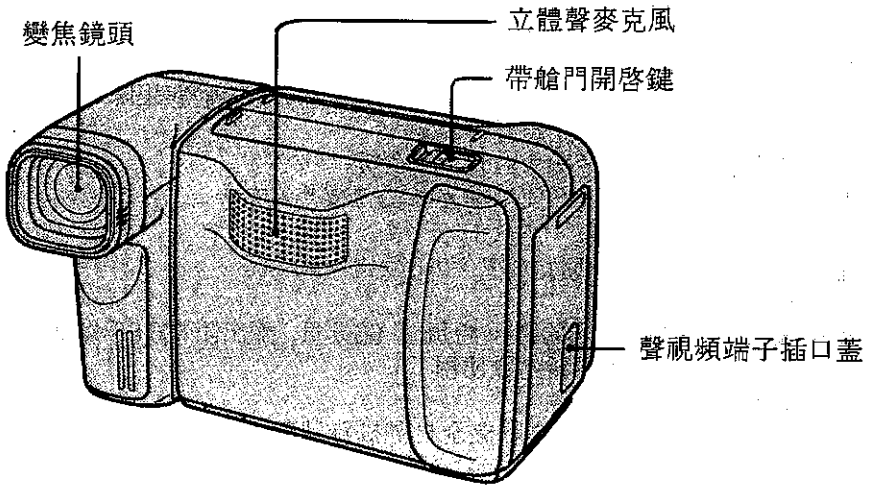
設計與規格參數因產品的需要可有所變更，恕不另行通行。

*最小照明亮度：因爲尚無爲大家普遍接受的最小照明能力測試流程，標出的勒克司數值祇作爲比較同一廠家的不同型號的機器性能之用。

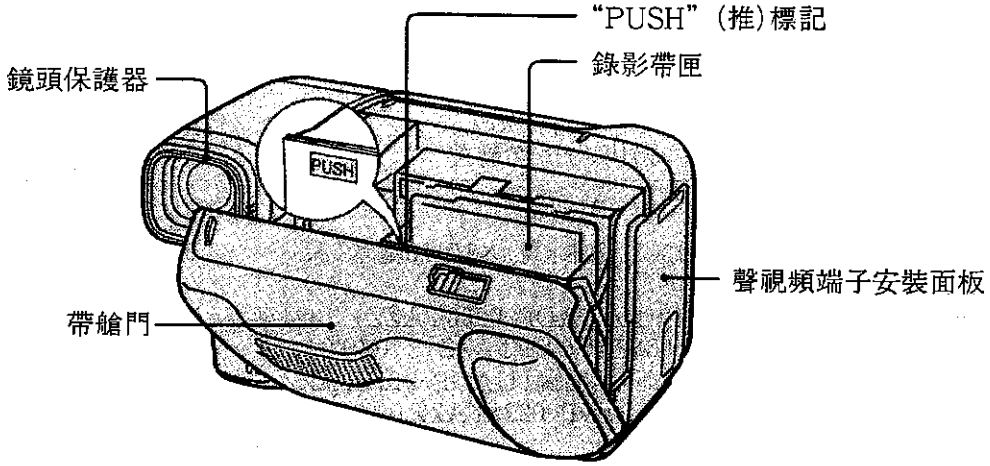
2. 零件名稱

欲知各個控制按鈕的詳細使用方法，請參閱括號內的頁號。

前視

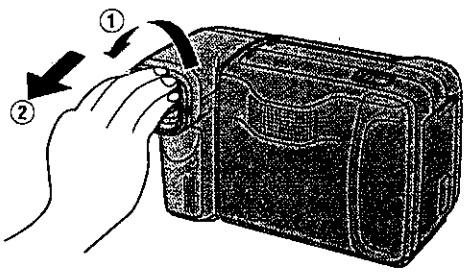


當帶艙門打開時

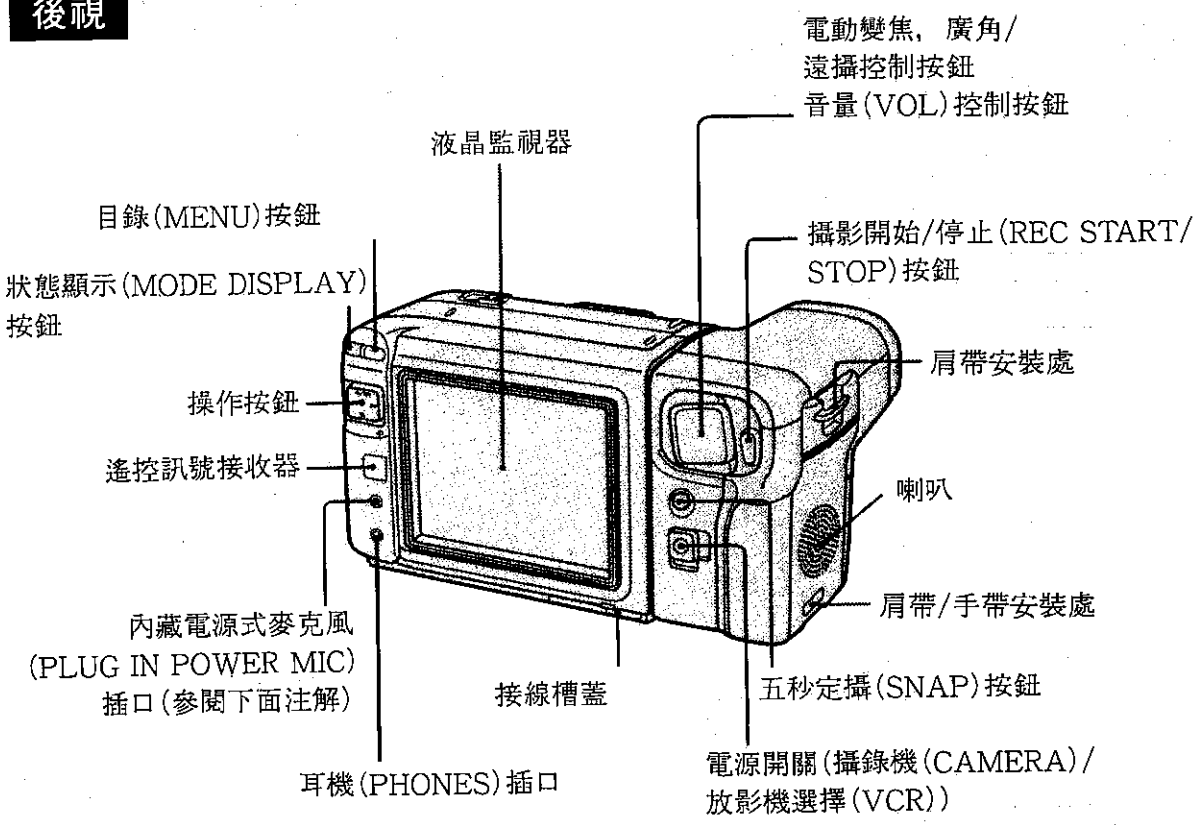


卸下鏡頭保護器

安裝選購的廣角或遠攝轉換鏡頭之前，
應逆時針旋轉卸下鏡頭保護器。



後視

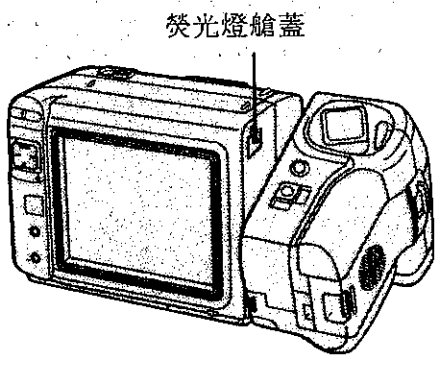


***關於內藏電源式麥克風插口**

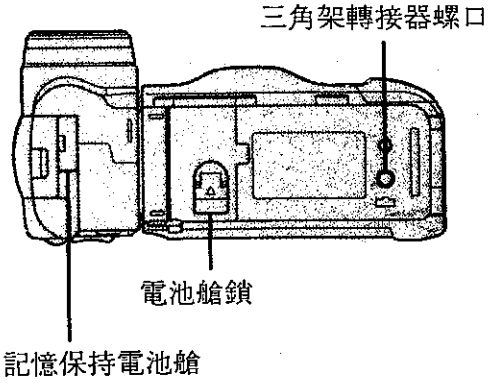
此外接麥克風插口輸出4.0伏直流電壓。此插口用於爲本機的運動機罩選購件而提供的麥克風，或者使用2.5～4.0伏直流電，具備3.5毫米直徑插頭的電容式麥克風。使用其他型號的麥克風可能會損壞麥克風或攝錄放影機。

側視

當攝錄模塊被旋轉時

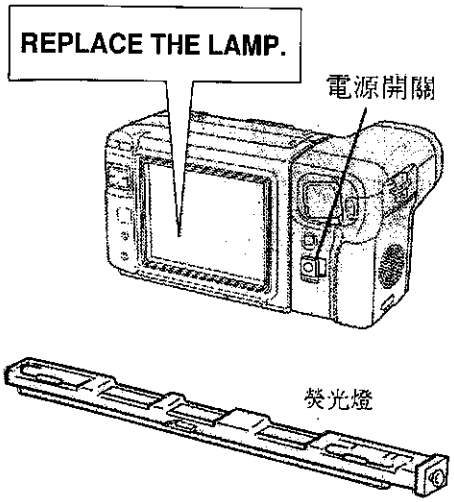


底視



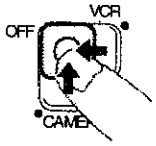
後照明熒光燈

本攝錄放影機使用的後照明熒光燈需要更換。如果熒光燈壽命將告結束的時候仍繼續使用攝錄放影機，監視器中央會出現“REPLACE THE LAMP”(更換熒光燈)指示，並大約顯示一分鐘。若發生這種情況，可以從您的經銷商那裏或夏寶零件大全分店購買一個新燈(KLMPV0018TAZZ)換下舊熒光燈。

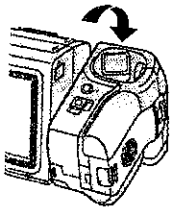


更換後照明熒光燈

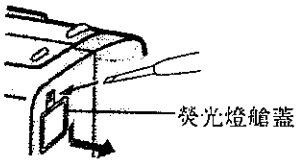
1 將電源開關撥到關上(OFF)位置，關上攝錄放影機，等待大約15分鐘讓熒光燈冷卻。



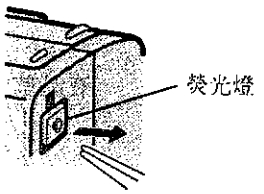
2 如圖所示，將攝錄放影機的攝影模塊向前旋轉一半。



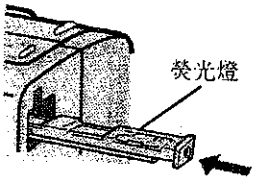
3 取下熒光燈艙蓋：將筆尖之類的東西插入蓋子上面的開口，按下蓋子鬆開鍵“ 凹 ”，然後拉出蓋子。



4 用鑷子小心挾住熒光燈的尾部(白色突起部分)，然後將燈拉出。



5 插入新的熒光燈。請查看下面的提示。



6 蓋上熒光燈艙蓋。

提示：

- 在上面第 5 步中必須沿箭頭方向將燈直著插進去，不要斜著按進去以免接觸不良。
- 第一次打開時熒光燈可能會閃爍，碰到這種情況，將攝錄放影機關上一會再打開。
- 當在寒冷的地方使用時，熒光燈的亮度可能會減弱。
- 更換熒光燈之前，應先卸下充電池。

注意：

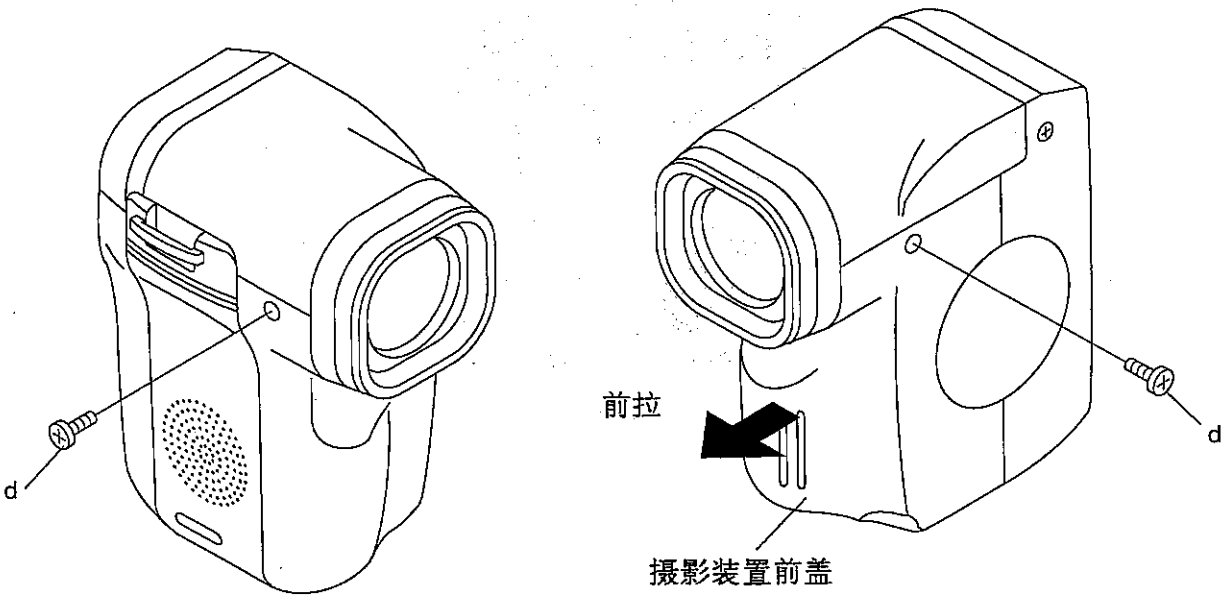
- 剛用過攝錄放影機後熒光燈較熱，所以要更換熒光燈應先關上電源，等待至少15分鐘讓熒光燈冷卻後再進行。如果熒光燈還熱時就去更換它，可能會導致燒傷或其它傷害。

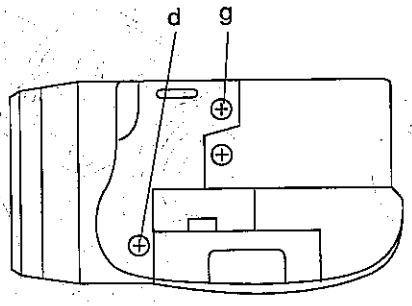
3. 录像摄影机的分解

3-1. 摄影装置的分解

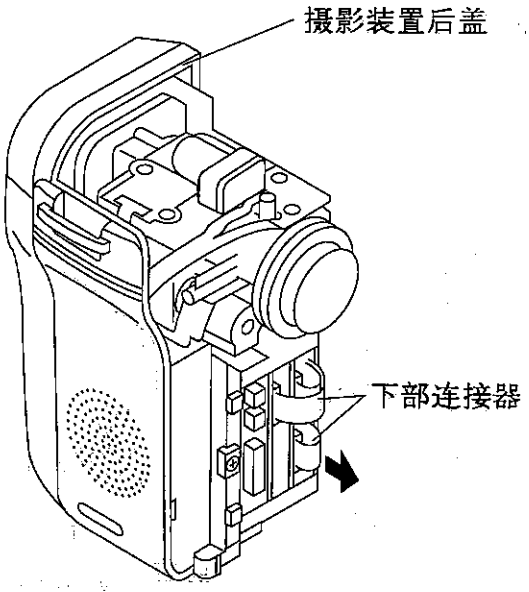
注意：揭去机盖前，必须先关闭电源开关，并确认机内无电源装入。

1)松去图示的4支螺丝，取下摄影装置前盖。

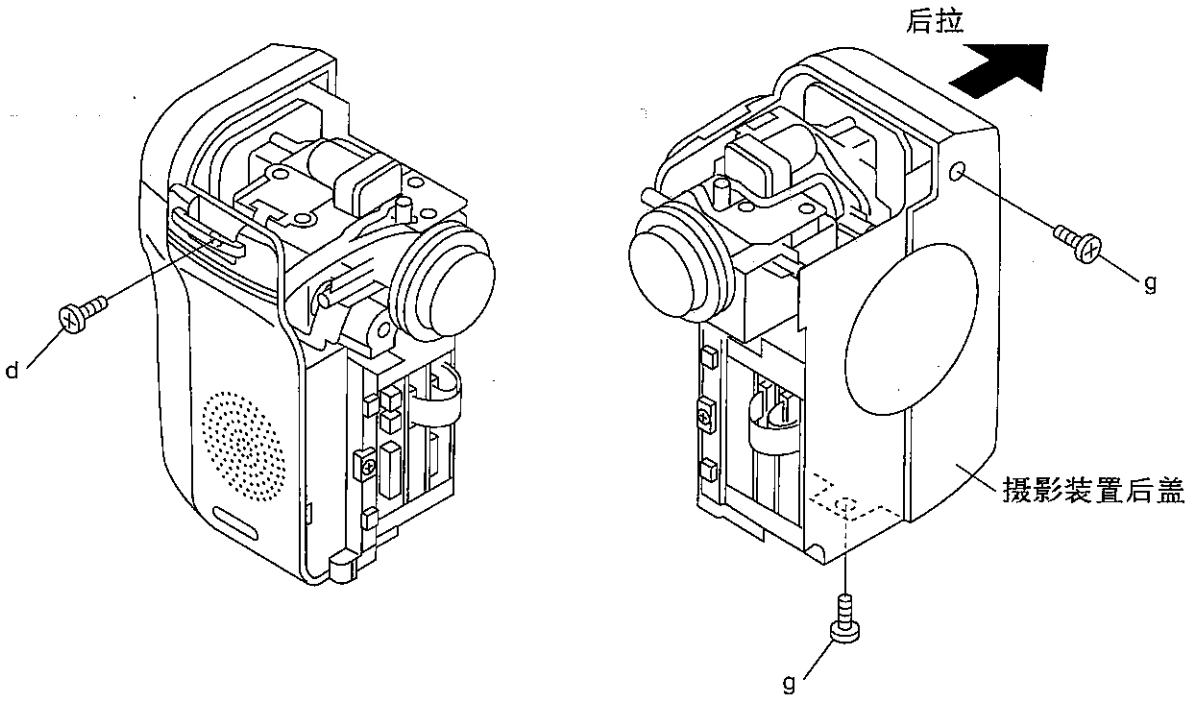




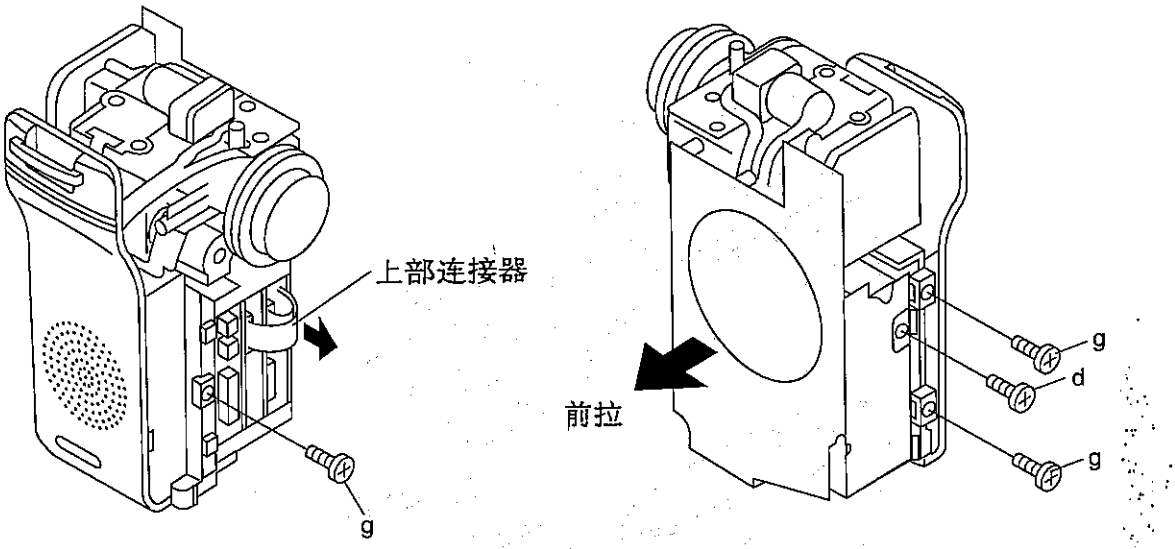
2)松开下部连接器。



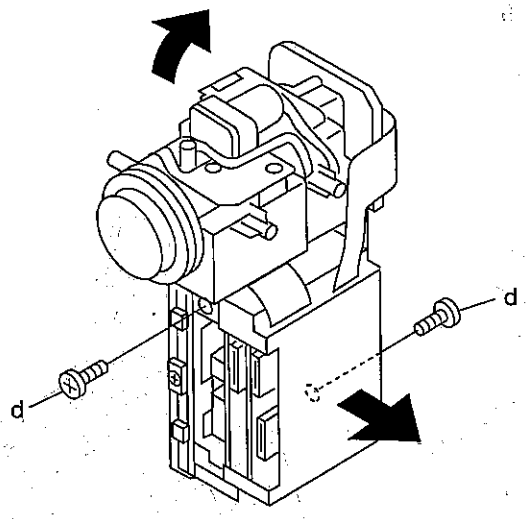
3)松去图示的3支螺丝，取下摄影装置后盖。



4)松开上部连接器及图示的4支螺丝。
取下斜框C上的侧盖。



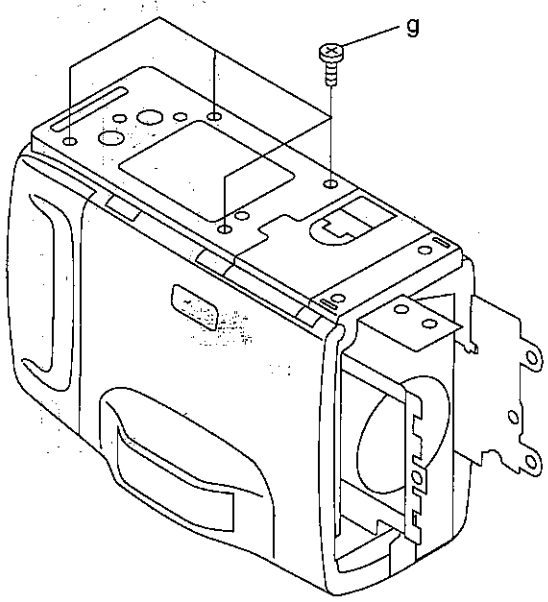
5)松去图示的2支螺丝，连同摄影镜头一道取下摄影装置PWB。



3-2. 机体的分解

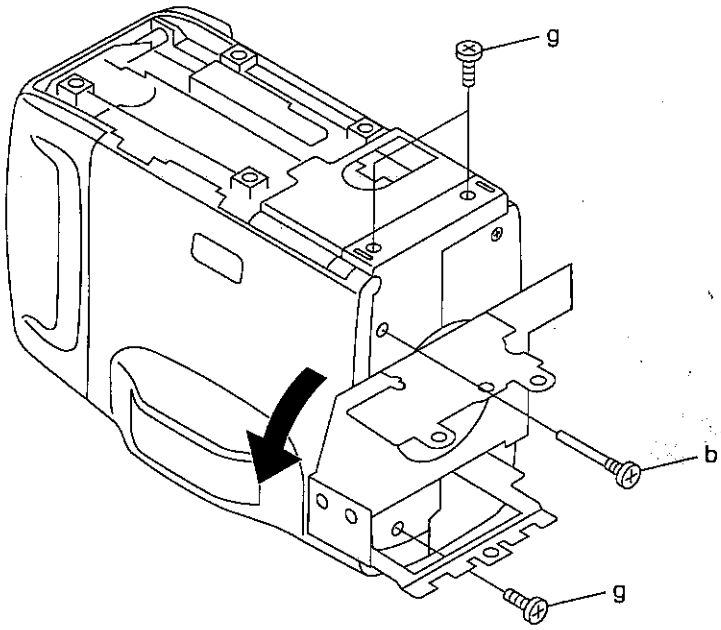
3-2-1. 取下底盖

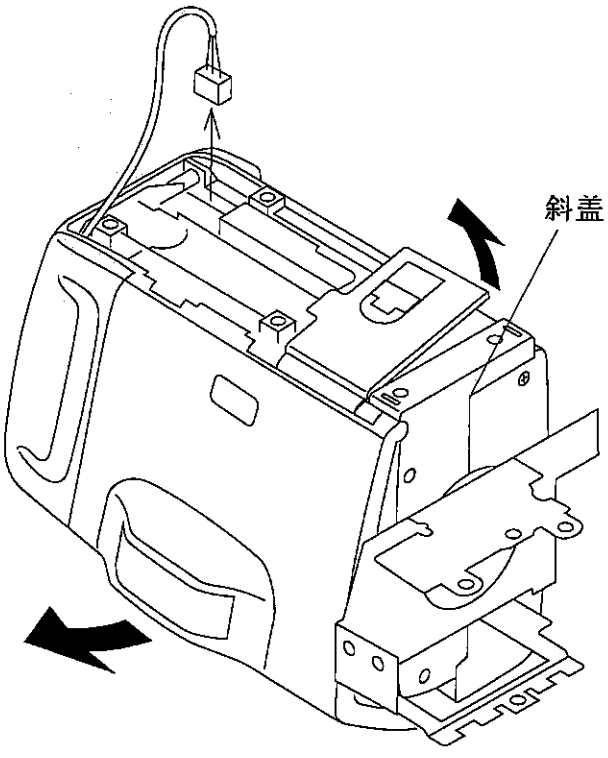
1)松去图示的4支螺丝，取下机体底盖。



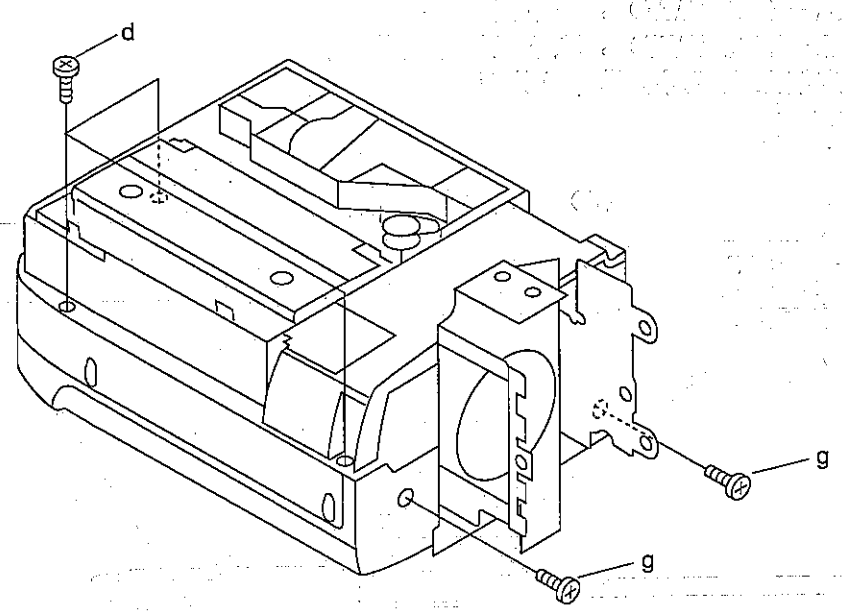
3-2-2. 取下左侧箱盒

1)松去图示的4支螺丝，松开连接器，揭开录像装置盒盖及电池盒盖，最后取下斜盖。

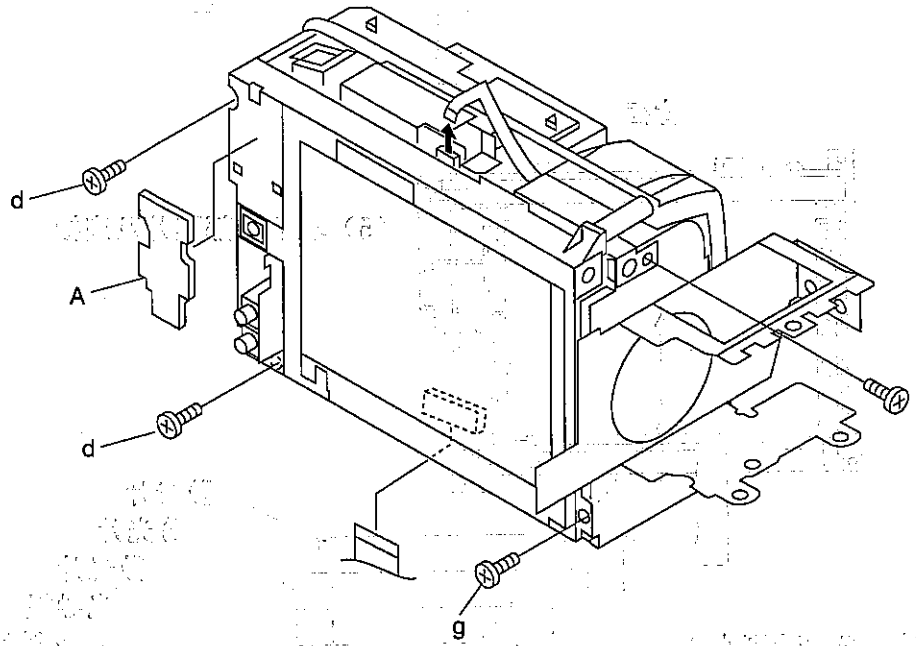




2)松去图示的5支螺丝，取下左侧盒盖。

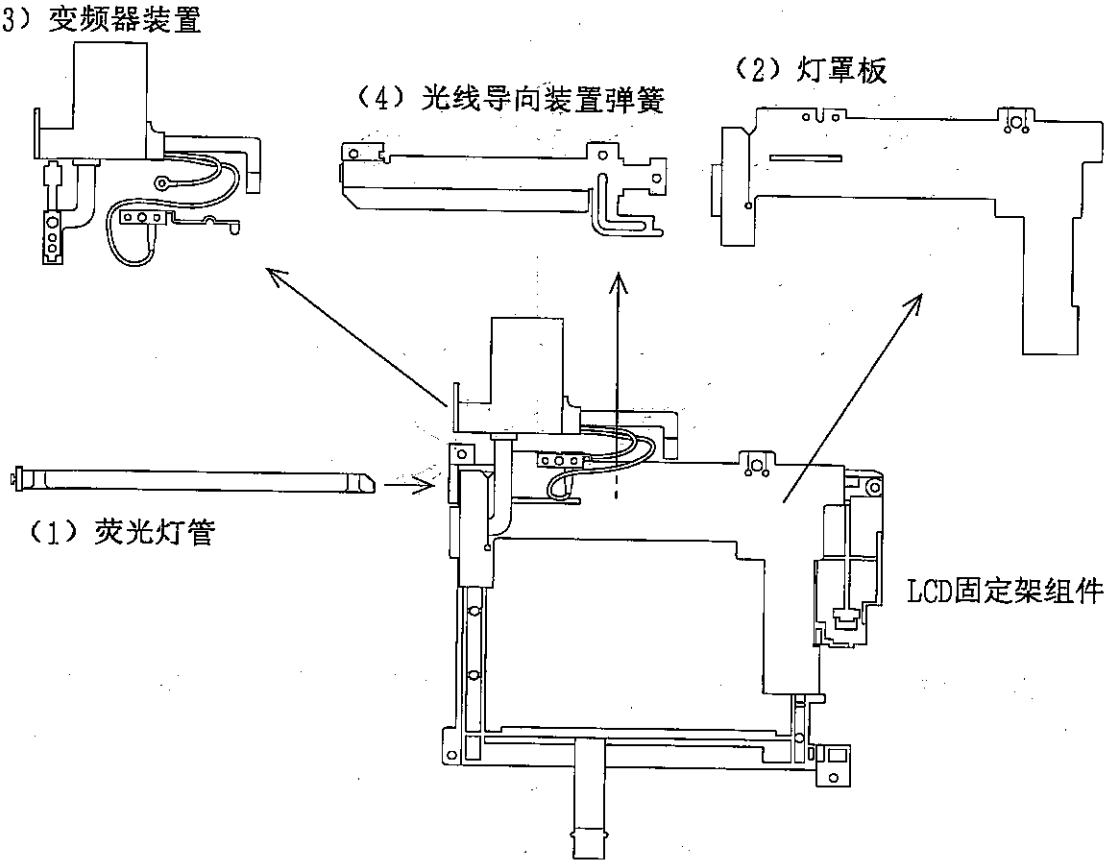


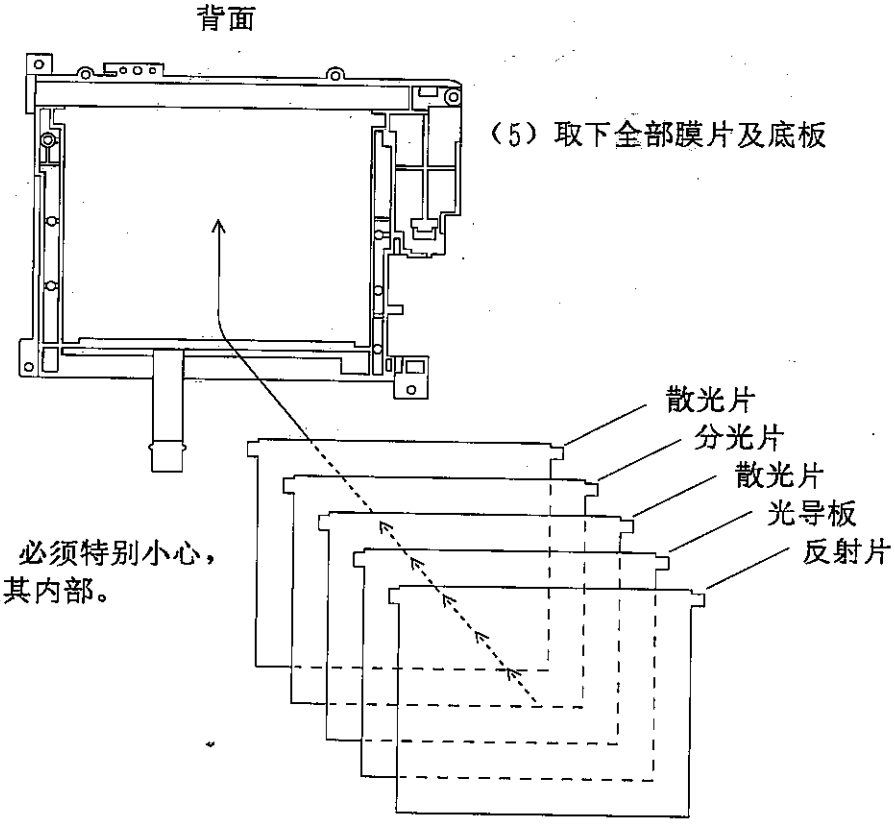
3)取下图示的A部。松去图示的3支螺丝，断开软性电缆线连接器，最后取下液晶显示器（LCD）装置。



取下液晶显示器（LCD）装置

1.从LCD固定架上取出荧光灯管。
2.松去2支螺丝（LX-HZ0031TAFF），取下灯罩板。
3.松去1支螺丝（LX-HZ0031TAFF），取下变频器装置。
4.松去1支螺丝（LX-HZ0031TAFF），取下光线导向装置弹簧。
5.最后，从LCD固定架上取下所有膜片及其板块。

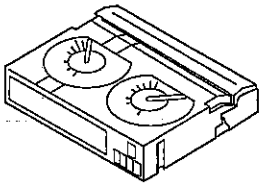
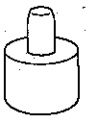
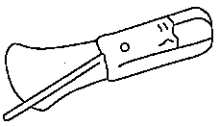
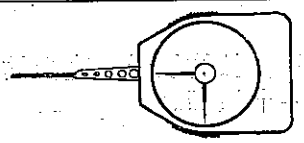
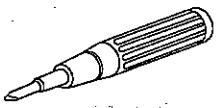
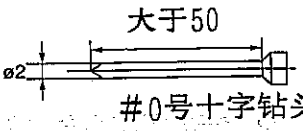
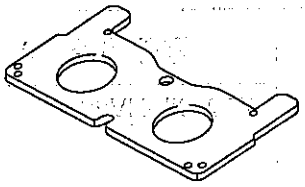
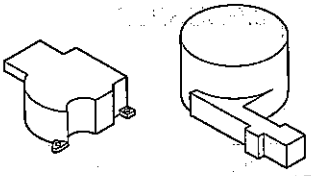
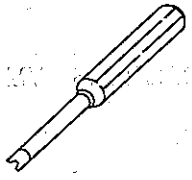
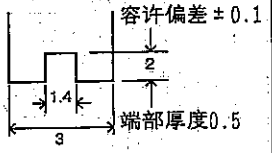


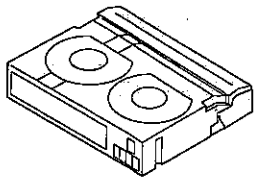


注意：重新组装LCD时，必须特别小心，
切勿让尘埃进入其内部。

4. 机械调整用工具

4-1. 机械检测调整用工具

No.	名称	零件编号	形状	型号及用途
1.	演放用盒式磁带式转矩仪	9DASD-1015		• SD-1015
2.	转矩测量计	JiGTG0045		• 用于测在倒放(VS-REW)状态下的卷带转矩。
3.	转矩测量计测头	9EQTGH-DH5000		• 用于与上述测量计配套。
4.	4N(400gf)张力计	JiGSG0400		• 用于测压带辊的压力。
5.	罗盘式张力计	9DAPTG-10-10W		• PTG-10
6.	150mN·m(1.5kg.cm)转矩螺丝刀	JiGTD1500RTDH		
7.	校正样板	9EQMP-DH5000		• 用于检查带盘座的高度
8.	高度调整工具	9EQHG-DH5000		• 用于调整卷带导杆的高度 • 用于调整供带辊的高度
9.	高度调整螺丝刀	9EQDRiVER-DH5		• 用于供带辊调整 • 用于导辊调整 • 用于卷带导杆调整 • 用于带盘座调整 • 刀头形状（见下图） 

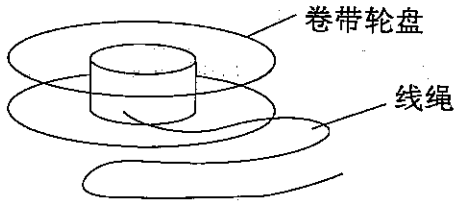
No.	名称	零件编号	形状	型号及用途
10.	校正用录像磁带	90ADVC-TAPEPAL		• 用于走带调整（彩条）
11.	其他 (1)游标卡尺 (2)袖珍精调用螺丝刀（十字口和一字口） (3)袖珍型尖嘴钳 (4)镊子			

＜其他机械检查和调整用工具的自制方法＞

(1)测量反向张力用的卷带轮盘

1)取一平常家用录像机用盒式录像带中的卷带轮盘。（拆开录像带盒匣，从卷带轮盘上 取除磁带。）

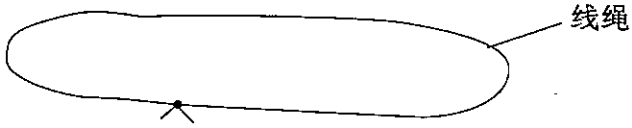
2)用玻璃胶带（例如）从一根线绳（约20cm）的一端粘在卷带轮盘上。



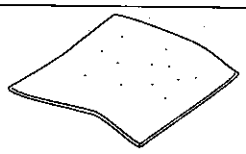
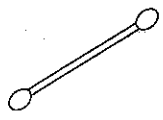
(2)测量紧带辊扣合力用的线绳

1)取一根商店里可买到的约20cm长的线绳（直径约为0.3mm）。

2)拉起两端打结，使其成了一个绳圈。



4-2. 定期检查和保养用工具

No.	名称	零件编号	形状	型号及用途
1.	润滑油 (1)Cosmo Hydro HV22	9EQ-OiL-HV22		• Cosmo石油株式会社
2.	清洁纸	JiGDUSPER		• DUSPEER(SIGMA)（OZU有限公司）
3.	极细型棉签			• 可到商店选购使用
4.	润滑脂：Moly Coat YM-103	99FGREASE-YM103		• 道氏康宁
5.	螺丝保险扣(1401B)			• 三结接头
6.	清洁剂：工业用高纯度酒精			• 可到商店选购使用

5. 定期检查和保养的项目及其期间

为保证机械部分经常保持良好的工作性能，
务请按下表要求进行检查和保养。另外，发生故障而修理之后，不论用户使用期间长短，务请按下表实施检查和保养。

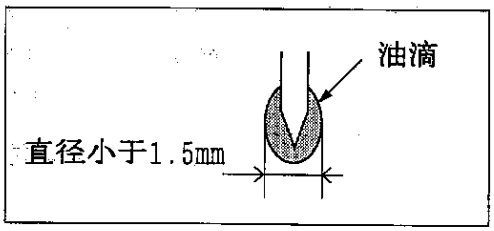
5-1. 检查保养项目一览表

	检查保养部位	使用期间（小时）					发生需要保养的故障	备注
		500	1,000	1,500	2,000	3,000		
走带系统	走带部分（见7-1节所述）	□	□	□	□	□	• 块状噪声影响 • 磁头孔阻塞 • 磁带受损 注： 如清擦视频磁头后，磁头孔仍然阻塞，则需更换磁鼓组件。	• 如在走带过程中有任何异常，或偏转（尺寸变大之故），应及时加以更换。 <除上之外的其他部件> • 清洁与磁带相接触的部分（特别是下部磁鼓螺旋扫描头部分）。清洁时用规定清洁剂。
	磁鼓、磁头部分（见7-1节所述）	□	□	□	□	□		
传动系统	同步皮带	—	★	—	★	★	• 不走带 • 磁带起皱 • 出现块状噪声 • 出现异常噪声	• 如发生任何异常，则及时加以更换。
	紧带辊	□	□	□	□○	□		
	主导轴马达	—	○	—	○	○		
	摆臂、卷带盘座	—	★○	—	★○	★○		
	中央齿轮轴、演放齿轮轴、快转齿轮轴	—	△	—	△	△	• 出现异常噪声	• 加润滑油润滑之。 [润滑油]： Cosmo Hydro HV22 注：加注润滑油于轮轴之后，用干软布轻轻拭净。
	张力臂轴	—	△	—	△	△	•磁带受损 •演放图象不正常	
	装带马达、状态开关	—	★○	—	★○	★○	•磁带不退出。 •无法进入指定状态。	• 如发生任何异常（包括噪声），则及时加以更换。
性能检查	异常噪声	★	★	★	★	★	• 不走带。 • 磁带起皱。 • 磁带受损。 • 演放图像不正常。	• 如有部件不符规格要求，则及时加以更换。
	演放、倒放中的卷带力矩	—	★	—	★	★		
	演放、倒放、快进、倒带中的装带反张力	—	★	—	★	★		
	磁头清洁器	—	○	—	○	○		

[润滑油]Cosmo Hydro HV22
[润滑脂]Moly Coat YM-103
[螺丝保险扣]　三接头1401B
[清洁剂]工业用普通酒精
○····更换。□····清洁。△····润滑。★····检查

5-2. 注意事项

(1)更换零件时,必须连同配套的弹簧垫圈一起更换。
(2)该摄像机内的机械系统不需进行其控制系统的调整。如其控制系统发生不能满足设定要求的现象，清洁和/或更换其关连零件。
(3)关于润滑油
a)必须使用规定的润滑油。（使用规定外的润滑油会引起各种不同的故障。）
b)润滑齿轮的润滑油必须纯净，不得渗有杂物、尘埃。（用混有杂质的润滑油，会增加齿轮的磨耗或引起粘滞。）
c)一滴润滑油的量应为下图所示，即附于一针尖上的一滴。



(4)通过附在机构上的磁带盒室控制装置，实施电路修理、走带调整等。
(5)让机械部分单独工作时，直接加电源于装带马达接线端即可。加于马达两端的电源必须小于DC3V。（用手强制马达转动，会引起齿轮断齿的危险。）
(6)装入磁带盒室控制装置时，按下图所示按下A部装入之。切勿按压其他另外部分。
(7)切勿让任何机械零件发生变形。

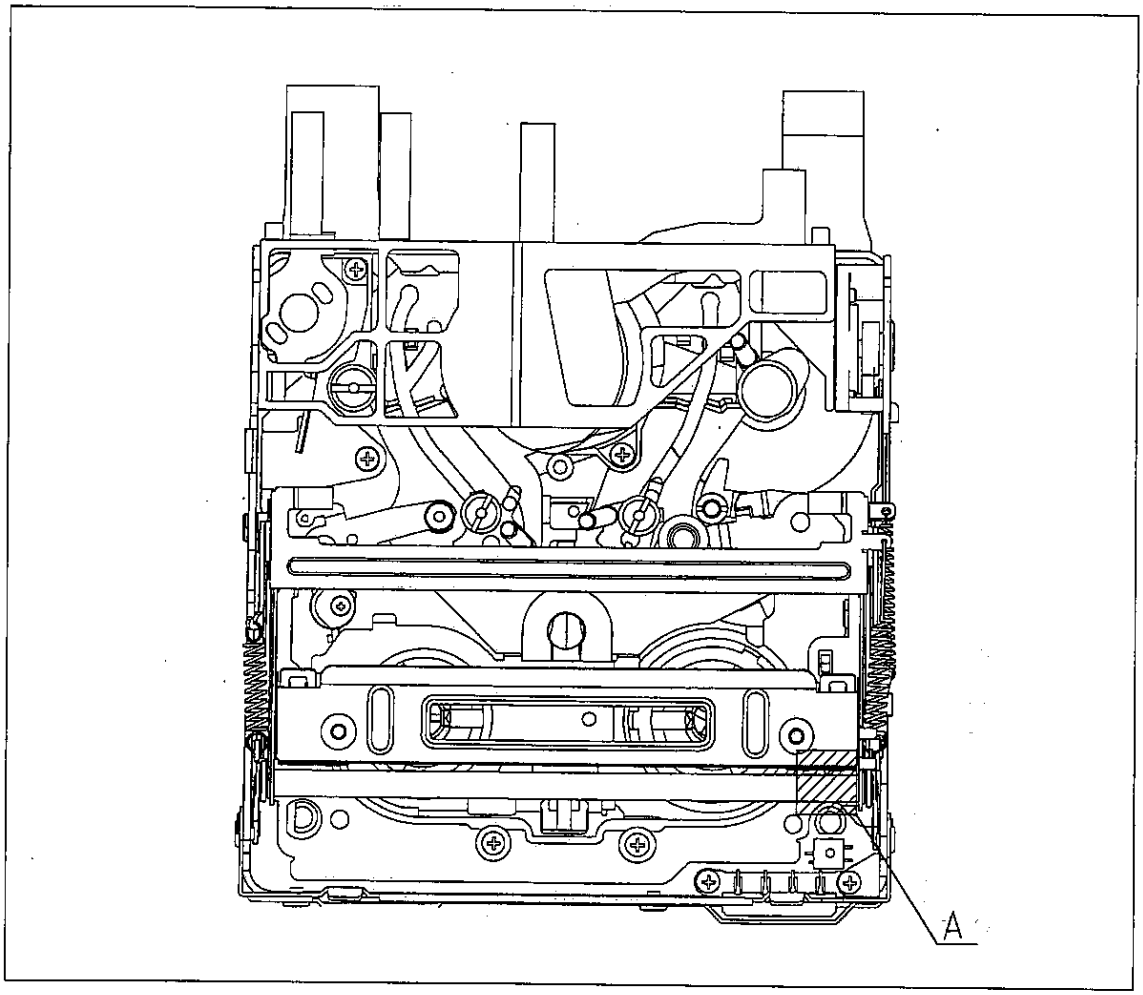


图1

6. 机械的检查和调整

这里所讨论的项目均为现场维修一般所涉及的项目。一些需要尖端设施、工具及技术的调整和更换，此说明书将予省略。另外，为维持本摄像机的原有性能，除了定期的检查和保养之外，一些平常的措施也是非常必要的。比如，不用受损磁带，用符合规定要求的调整工具等。

<注意事项>

(1)作机械检查和调整时，本录像摄影机的电源及工作状态应按下述规定设定。

加交流转换器，用磁带盒室控制装置

- 6-1 检测演放(录像)的卷带转矩
- 6-2 检测和调整演放(录像)的反向张力转矩

加交流转换器，不用磁带盒室控制装置（机械部分单独工作）

- 6-3 检测倒放（VS-REW）的卷带转矩

加DC3V电源，不用磁带盒室控制装置（机械部分单独工作）

- 6-4 检测带盘座高度
- 6-5 检测张力杆位置
- 6-6 检测快进的反向张力
- 6-7 检测倒带的反向张力
- 6-8 检测装带的反向张力
- 6-9 检测紧带辊压合力

(2)向装带马达施加DC3V电源，让机械部分单独工作时， 请先从连接器上松开装带马达FPC的连接。

(3)走带动作时必须使用盒室控制装置。

6-1. 检测演放（录像）的卷带力矩

(1)置盒式磁带式转矩测量仪于附加的盒室控制装置之中。然后，设装置于录像状态（如带中已录有内容，设其于演放状态），检测卷带侧的转矩是否在规定范围之内。

录像（演放）的卷带转矩规定值

0.65±0.35mN·m（6.5±3.5gf·cm）
波动小于0.2mN·m（2gf·cm）

（所测值为波动值时，取其中间值。）

6-2. 检测和调整演放（录像）的反向张力转矩

(1)检测

置盒式磁带式转矩测量仪于附加的盒室控制装置之中。然后，设装置于录像状态（如带中已录有内容，设其于演放状态），检查供带侧的转矩是否在规定范围之内。

转矩规定值：0.65±0.23mN·m(6.5±2.3gf·cm)
（所测值为波动值时，取其中间值。）

(2)调整

所测转矩值不符规定要求时，通过调节图5所示的张力弹簧钩挂点进行调整。
反向张力转矩过大之场合，将弹簧钩挂点向A方向移动。反向张力转矩过小之场合，将弹簧钩挂点向B方向移动。

<注意>

调整反向张力转矩之后，必须对张力杆进行检测。

6-3. 检测倒放（VS-REW）的卷带转矩

(1)取下磁带盒室控制装置。然后，参考8-3节的(3)~(5)，在下移（DOWN）开关及卷带盘锁扣松解柄之间加入一张薄纸。设录像摄影机于测试（T01）状态后，再设其于倒放（VS-REW）状态。

(2)将转矩测量计装于供带盘座之上。用手指沿箭头A所示方向拨动张力杆端部。
松开张力杆，检测所测卷带转矩是否在规定范围之内。（检测时，不转动转矩测量计。）

倒放（VS-REW）的卷带转矩规定值：

2.0±0.6mN·m(20±6gf·cm)
波动不超过0.4mN·m(4gf·cm)

（所测值为波动值时，取其中间值。）

(3)倒放卷带转矩检测完毕后，拆下转矩测量计以及步骤（1）中插入的薄纸（参见8-3节），录像摄影机便自动进入准备状态。（绝对切勿触按录像机装置上的出盒（EJECT）杆，以免造成该杆及凸轮发生变形的危险。）

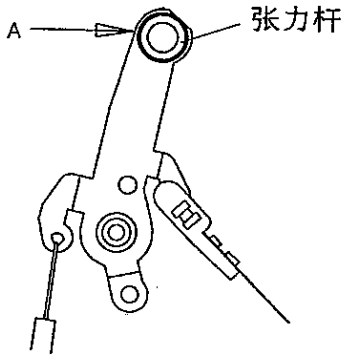


图2.测量倒放（VS-REW）卷带转矩时松放张力带的方法。

6-4. 检测带盘座高度

(1)拆开磁带盒室控制装置。（参照8-2节所述）

(2)参照8-1节所述，加DC3V电源于装带马达两端。设录像摄像机于快进（FF）或倒带（REW）状态。

(3)小心操作，切勿让校正样板触碰磁鼓、走带部件（导辊等）、或麦克风（MIC）接触器。按图3所示，将校正样板的两个孔分别对准图中的导杆（A和B）嵌入之。

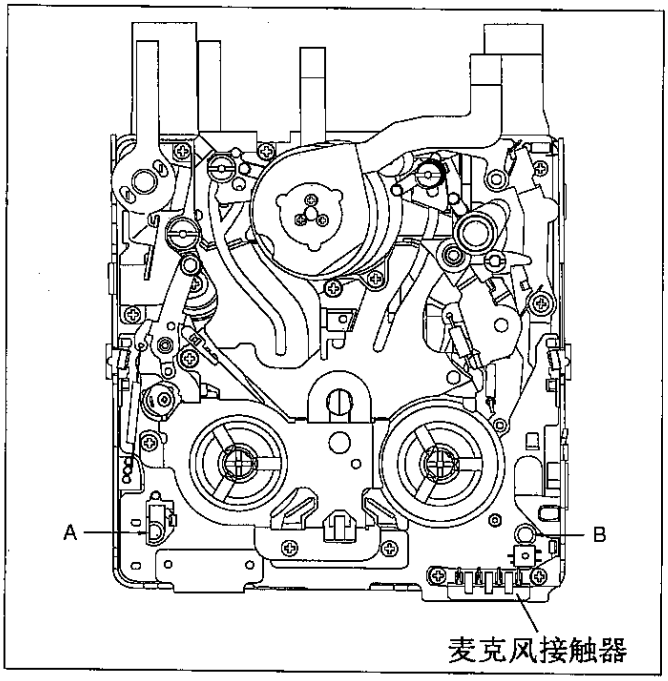


图3

(4)按图4所示，用游标卡尺检测供带盘座带盘轮廓表面和卷带盘座带盘轮廓表面的高度低于校正样板表面的量是否在规定值范围之内。

(5)所测高度值不在规定范围之内，用高度调整螺丝刀转动带盘端盖加以调整，直至其高度满足规定值要求。

注：作此项调整之后，检查带盘的转动是否圆滑。（检测卷带盘座时，请参照8-3节的（3）~（5），先松开下移开关及卷带锁扣松解杆再进行。）

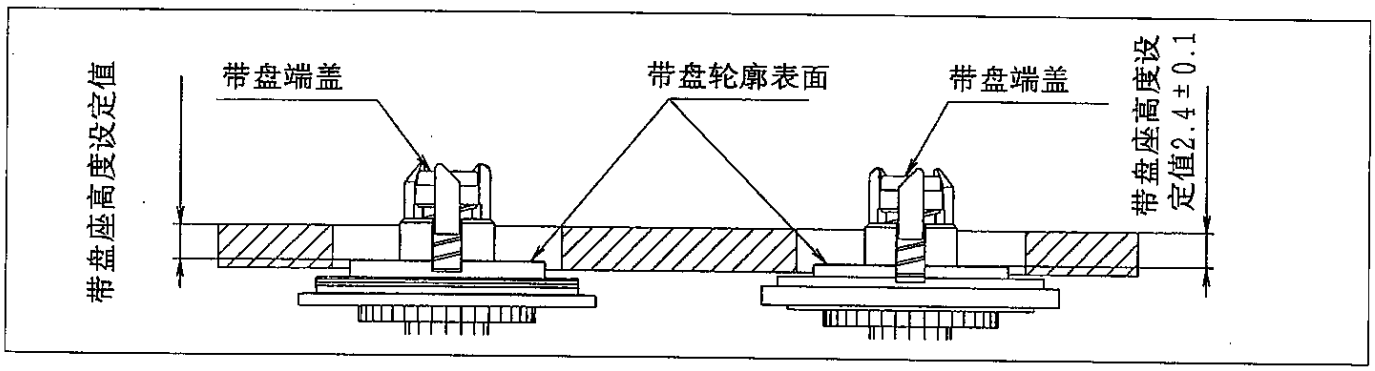


图4

6-5. 检测张力杆位置

(1)拆去磁带盒室控制装置，加DC3V电源于装带马达两端。 设录像摄影机于演放（PLAY）状态（不装磁带）。
检测张力杆是否如图5所示， 为离主机芯内壁8.5 mm的位置之处。

(2)所测位置不符上述规定时，通过旋转偏心销加以调整。张力杆位置太向外时，顺时针旋转偏心销调整之。张力杆位置太向内时，逆时针旋转偏心销调整之。

从主机芯内直至张力杆
上部翼缘外周的距离

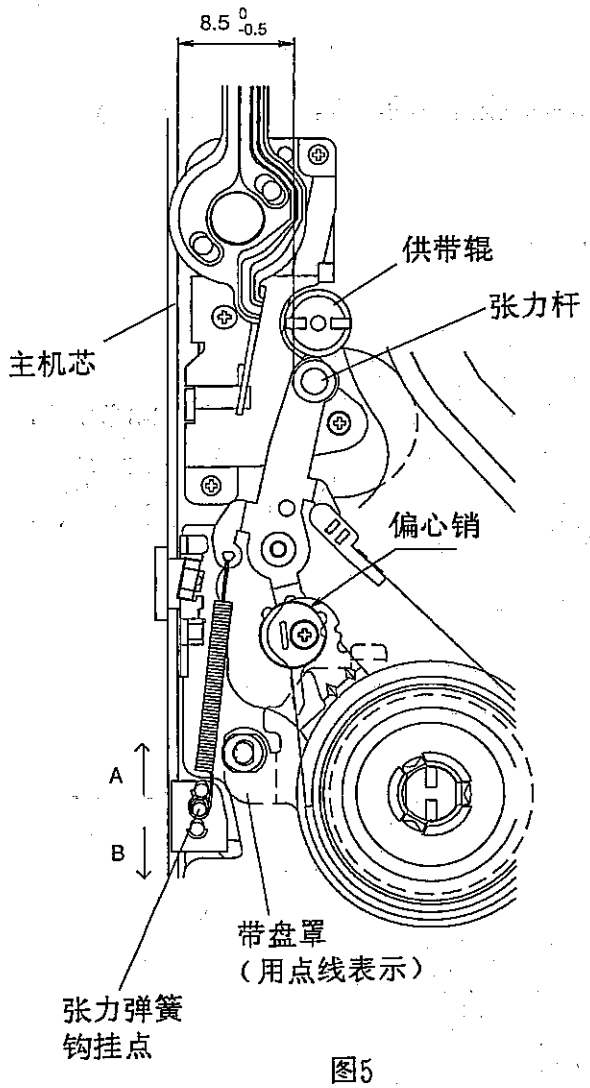


图5

6-6. 检测快进（FF）的反向张力

(1)拆去磁带盒室控制装置，加DC3V电源于装带马达两端。 设录像摄影机于快进（FF）状态。（参照8-1节所述）

(2)将机械部分翻转过来，用螺丝刀端部将摆臂拨至卷带盘座一侧。（参见图7所示）

(3)将自制的带盘反向张力测量用轮盘套在供带盘座之上。

(4)用罗盘式张力测量计沿下图箭头A所示方向拉轮盘上的线绳，检测读数是否在规定值范围之内。

快进反向张力规定值：

17 ± 12mN（1.7 ± 1.2gf）

（如所测张力波动不定，取其平均值。）

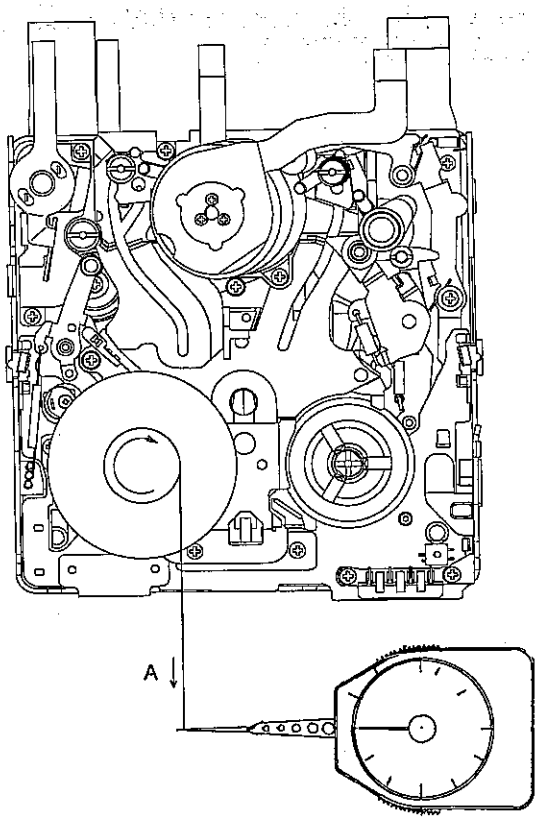


图6. 测量快进反向张力的方法

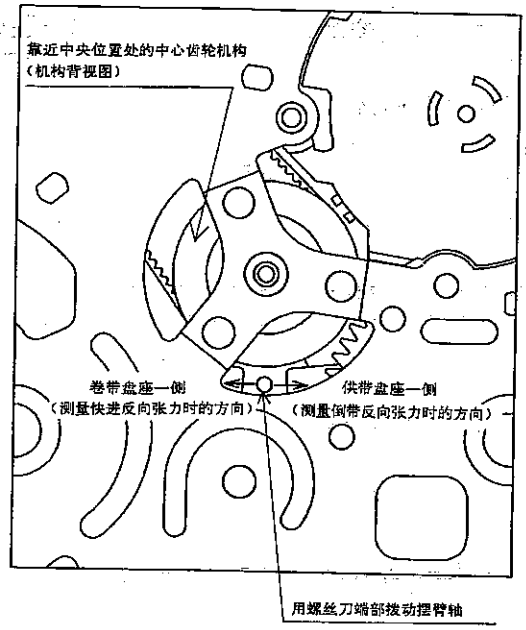


图7.测量快进、倒带的反向张力时，摆臂轴所在位置（机构背视图）

6-7. 检测倒带（REW）的反向张力

(1)拆去磁带盒室控制装置，加DC3V电源于装带马达两端。 设录像摄影机于倒带（REW）状态。（参照8-1节所述）

(2)参照8-3节的（3）～（5），插入一张薄纸后，松开下移开关及卷带锁扣松解杆。

(3)将机械部分翻转过来，用螺丝刀端部将摆臂拨至供带盘座一侧。（参见图7所示）

(4)将自制的带盘反向张力测量用轮盘套在卷带盘座之上。

(5)用罗盘式张力测量计沿下图箭头A所示方向拉轮盘上的线绳，检测读数是否在规定值范围之内。

(6)抽出步骤（2）插入的薄纸。

倒带反向张力规定值：

17 ± 12mN（1.7 ± 1.2gf）

（如所测张力波动不定，取其平均值。）

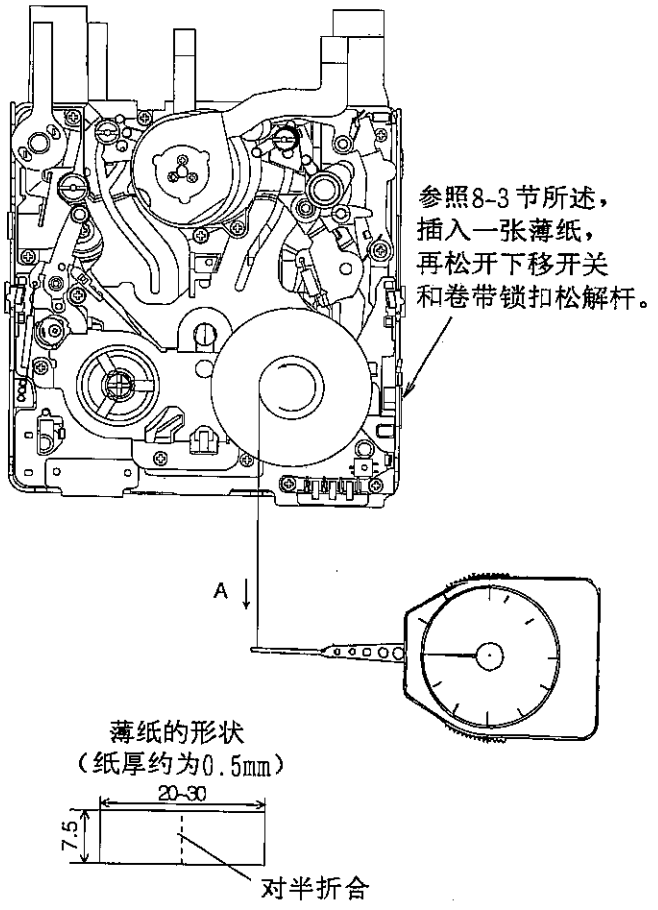


图8. 倒带和装带的反向张力的检测方法

6-8. 检测装带的反向张力

(1)拆去磁带盒室控制装置，加DC3V电源于装带马达两端。 设录像摄影机于准备状态。（参照8-1节所述）
(2)参照8-3节的（3）～（5），插入一张薄纸后，松开下移开关及卷带锁扣松解杆。
(3)将机械部分翻转过来，用螺丝刀端部将摆臂拨至供带盘座的一侧。 （参见图7所示）
(4)将自制的带盘反向张力测量用轮盘套在卷带盘座上。
(5)用罗盘式张力测量计沿图7箭头A所示方向拉轮盘上的线绳， 检测读数是否在规定值范围之内。（如所测张力波动不定，取其平均值。）
(6)抽出步骤（2）插入的薄纸。

装带反向张力规定值：
40 ± 30mN（4 ± 3gf）

6-9. 检测紧带辊压合力

(1)拆去磁带盒室控制装置。
(2)将自制的紧带辊压合力测量用绳环套接于紧带辊。
(3)加DC3V电源于装带马达两端。设录像摄影机于演放状态，让紧带辊压合在主导轴之上。
(4)如图9所示，挂张力计于套在紧带辊上的压合力测量用绳环上，沿光导管方向拉此绳环，让紧带辊渐渐脱离主导轴。
(5)紧带辊正好脱离主导轴之瞬间，张力计所测值便为压合力。

＜压合力规定值＞
2.2 ± 0.6N（220 ± 60gf）

＜注意＞
此项检测结束后，迅速解除录像摄像机的演放状态，让紧带辊离开对主导轴的压合。（因为紧带辊压合在主导轴的时间过长，会导致紧带辊的变形。）

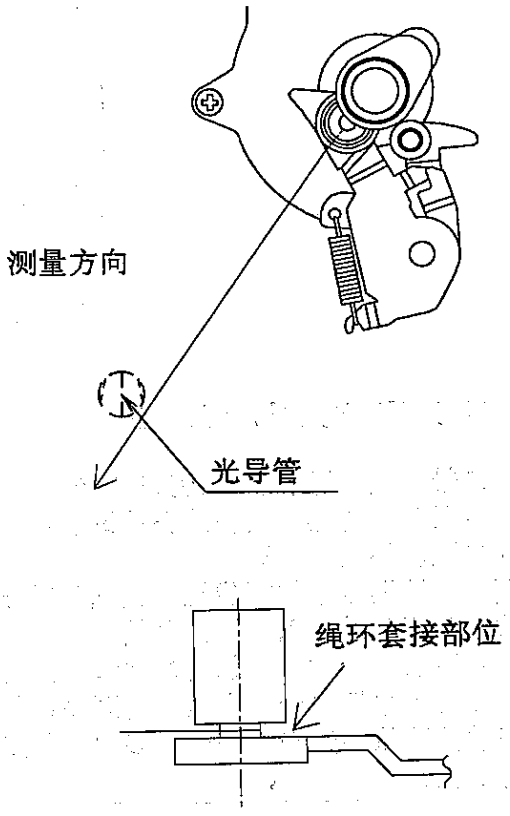
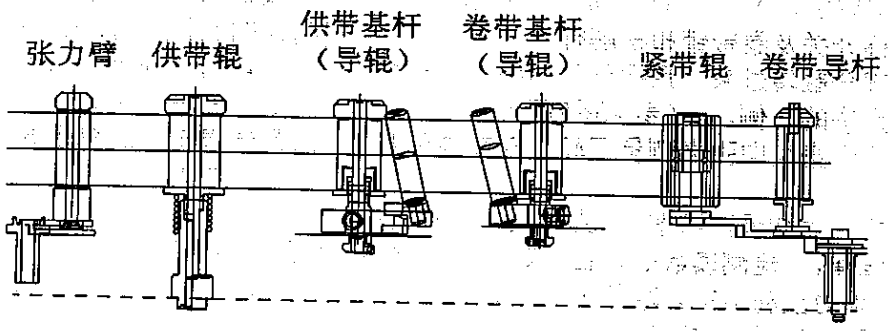


图9

7. 走带状况的调整

调整时必须将磁带盒室控制装置装附在机械部分上进行。

7-1. 需调整的部位



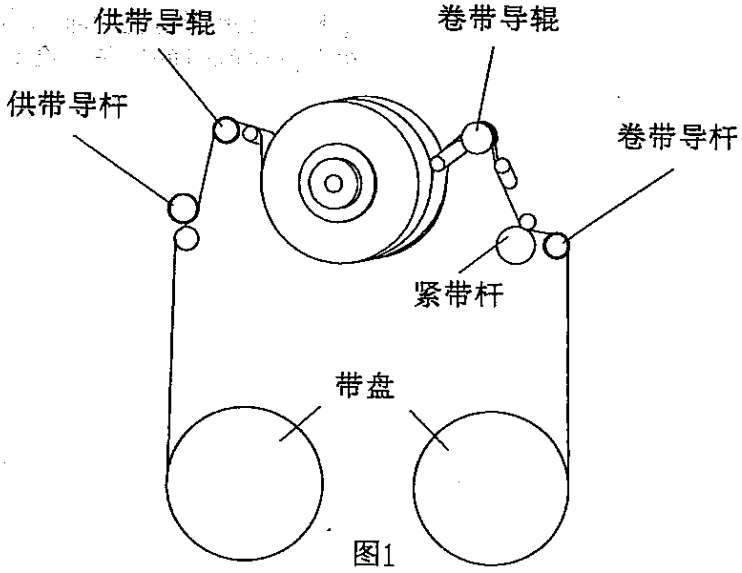
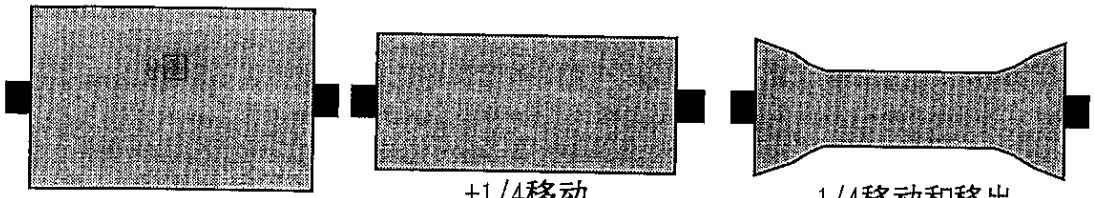


图1

7-2. 调整前的准备

(1)清洁走带表面（图1）。（特别是必须仔细地清洁磁鼓、下部磁鼓螺旋扫描头的表面。）
(2)接示波器于继电器电路板的各测试点。
(3)打开交流转换器电源开关。
(4)用调整遥控器设录像摄像机于测试T05状态。
(5)演放校正用磁带，以作走带调整。
(6)检查示波器显示的演放包络线波形。然后作+1/4移动和-1/4移动，检查各处是否均为平坦。如有不平坦之处，实施下述调整，以将包络线调整平坦。
（每触按演放(PLAY)键一次，移动量即按+1/4移动→正常→-1/4移动→正常之顺序而进行变化）

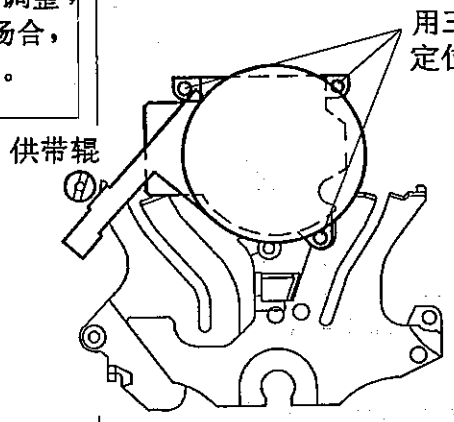
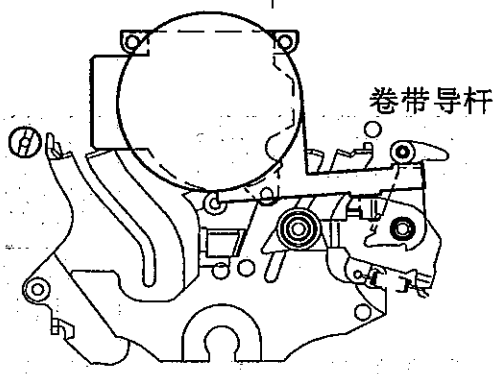
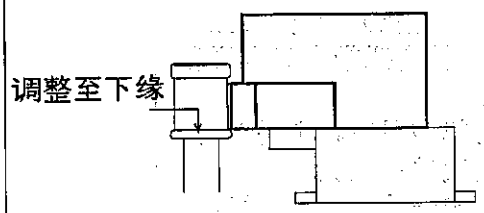
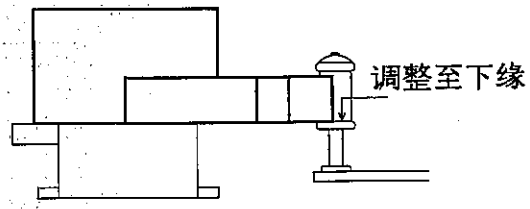
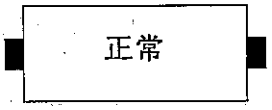
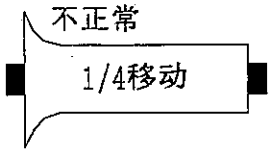


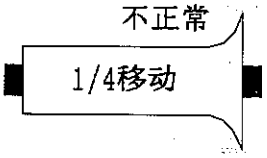
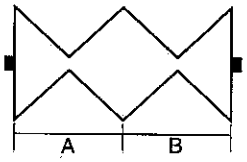
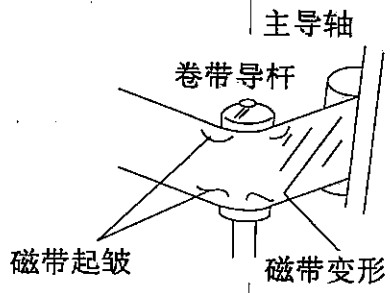
正常　　+1/4移动 正常　　1/4移动和移出 不正常

7-3. 调整步骤

(1)检测和调整供带辊和卷带导杆高度。
(2)调整供带导辊及卷带导辊的高度。
(3)检查倒放（VS-REW ）包络线波形。
(4)检查磁带起皱现象。
(5)检查包络线的上升。
(6)检查演放的SWP。

＜检查和调整＞

检查调整内容	方法	设定值与注意事项	测量仪器与工具
1)供带辊和卷带导杆高度 注： 仅限于上述零件被更换之场合，实施1）的调整；其他零件被更换之场合，只需实施4）的微调。	(1)用高度调整用工具，检查每个零件的高度是否处于其初设的高度。如果不符要求，则需调整至符合要求的高度。  图2	设定值  图3	• 示波器 • 高度调整工具 • 高度调整螺丝刀
实施卷带导杆调整时，加DC3V电源于装带马达两端，将其导杆拉出图3所示位置。	 	 	
2)供带导辊高度	(1)旋松导辊锁扣螺丝，再稍微旋紧之，让导辊可以转动。 (2)演放校正用磁带，调整供带导辊，使包络线引入平坦。 (3)作1/4移动调节，然后再作上述调整使包络线变至平坦。 (4)旋紧供带导辊锁扣螺丝。	设定值 引入侧　　引出侧   	• 示波器 • 调整遥控器 • 高度调整螺丝 • 校正用磁带

检查调整内容	方法	设定值与注意事项	测量仪器与工具
卷带导辊高度	(1)如同供带导辊的调整一样，调整其导辊高度， 让所示包络线平坦。	设定值  	
3)检查倒放（VS-REW）包络线波形	(1)检查倒放（VS-REW ）状态下包络线波形各峰值是否均匀。 (2)如各峰值不均匀，则需对其导辊和卷带导杆进行微调。	设定值  调整至A≒B	・示波器 ・高度调整螺丝刀 ・校正用磁带
4)检查磁带起皱现象。供带导辊高度微调。	(1)于演放状态下，检查供带导辊的走带部位是否发生起皱现象。 (2)如有发生起皱现象，则需对供带导辊 高度进行微调。 (此时，切勿旋转其导辊至±45°以上)	设定值	・示波器 ・高度调整螺丝刀 ・校正用磁带 ・螺丝锁扣
卷带导杆高度微调	(1)于演放状态下，检查卷带导杆于与紧带辊之间的磁带是否发生变形现象，在其上缘或下缘磁带是否发生起皱现象。 (2)于倒放（VS-REW）状态下,如上述要领， 检查磁带有无变形和起皱现象。 (3)如磁带有起皱现象，则需对卷带导杆高度进行微调 。 (4)加螺丝锁扣于卷带导杆上缘，锁定其高度位置。	 	
5)检查包络线的上升时序	(1)检查从倒放（VS-REW）状态切换到演放状态时包络线的上升时序。 (2)检查从停止状态切换到演放状态时包络线的上升时序。	设定值： 5秒之内	
6)调整演放状态的SWP	(1)演放校正磁带。 (2)用调整遥控器设定SWP自动调整状态。		・校正用磁带

8. 机械部分组件与零件的更换（拆卸与重装）

本章说明机械部分组件与零件的拆卸和重装。
机壳的拆卸等，请参照第3章“录像摄影机的分解”所述。

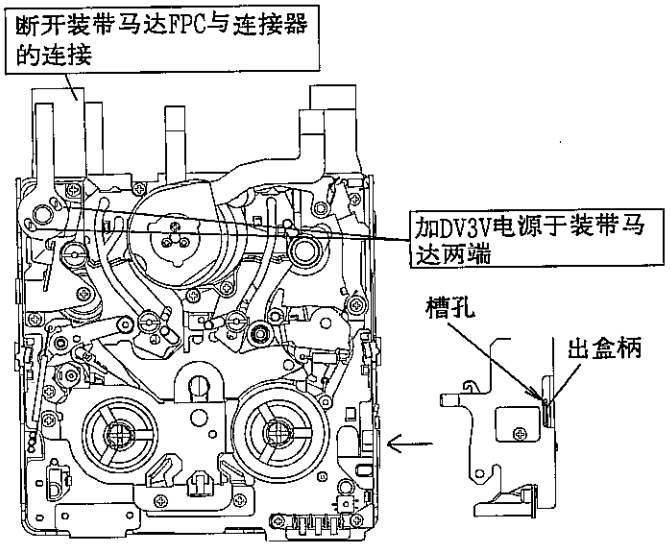
＜注意事项＞

1. 更换零件时，如零件带有弹簧垫圈，则必须连同弹簧垫圈一起更换。
2. 将机械部分翻转之场合，切勿将其放在诸如桌面等物体之上，以免造成内部机械零件的变形、折损而引起故障。
3. 重装时，必须特别小心，切勿将螺丝、垫圈或杂物等留在机内，以免引起本机使用时发生误动作。
4. 使用的清洁剂、润滑油、润滑脂以及螺丝锁扣等都必须是下列规定者。 用不符合规定要求者会引起本机使用时发生误动作。
   润滑油：Cosmo石油株式会社，Cosmo Hydro HV22
   润滑脂：Dow Corning有限公司，Moly Coat YM-103
   螺丝锁扣：三接头，1401B
   清洁剂：工业用普通酒精

8-1. 处于机械工作状态

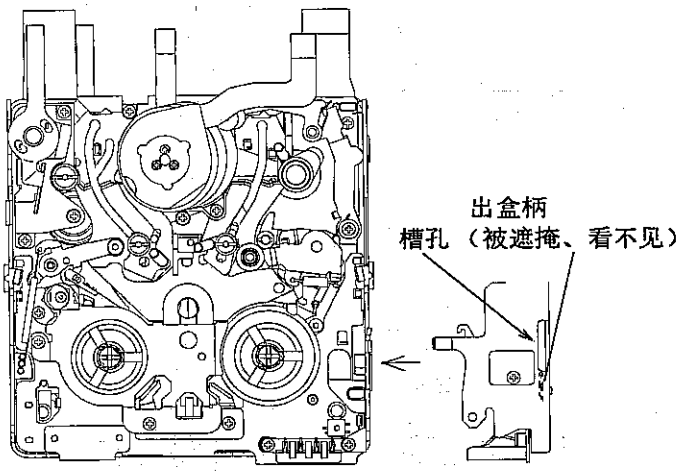
为让机械部分单独工作，加DC3V电源于装带马达两端即可。
这时，应断开装带马达FPC与连接器的连接。

(1)出盒（EJECT）状态
下图为出盒状态的机械位置图。出盒柄运动推磁带盒退出，因而不能被看到。而在准备状态时，出盒柄可以通过机芯底部右侧的槽孔看到。



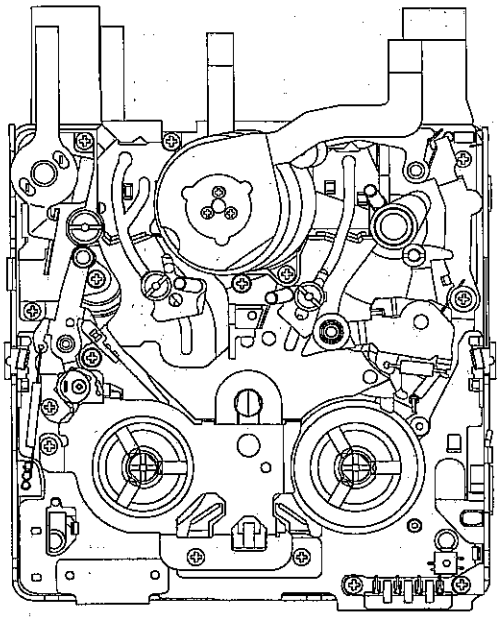
出盒状态机械位置图

(2)准备（STANDBY）状态
下图为准备状态机械位置图。磁带被装入，磁带盒室装置向下移动，使出盒柄不能被看到。相反，这时的出盒状态下，出盒柄却可以通过机芯底部右侧的槽孔看到。



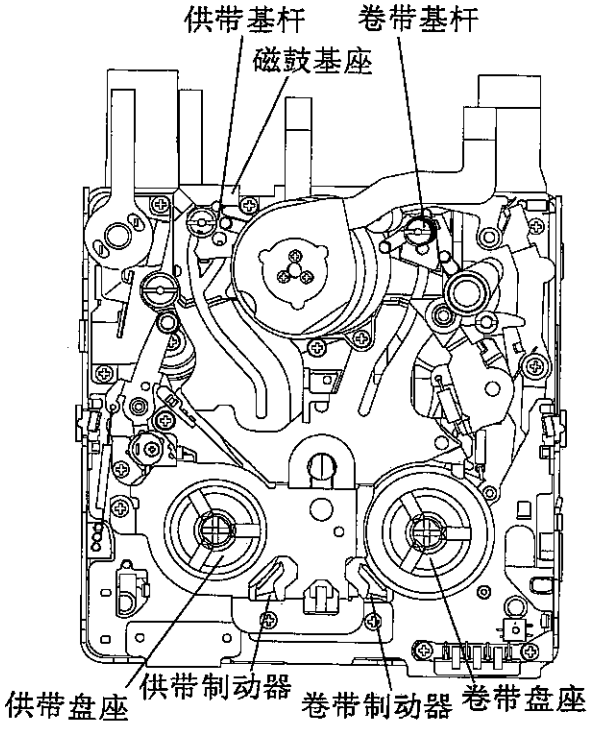
准备状态机械位置图

(3)中点（MIDDLE POINT）状态
下图为中点状态机械位置图。磁带被装入，并绕在卷带盘上。



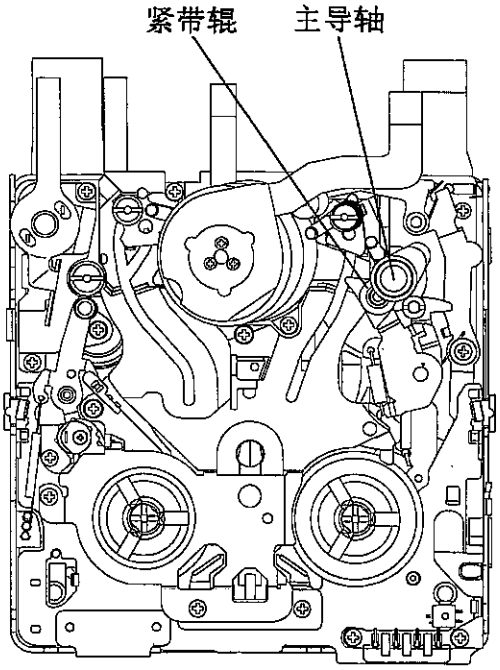
中点状态机械位置图

(4)停止（STOP）状态
下图为录像摄影机处于停止状态（摄影状态下录像键锁扣）的机械位置图。供带基杆和卷带基杆均压合于磁鼓基座之上，供带制动器和卷带制动器分别触压在供带盘座和卷带盘座之上。



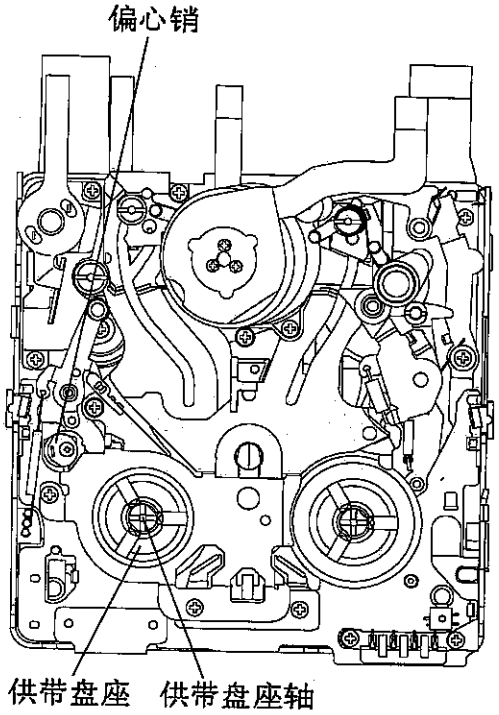
停止状态机械位置图

(5)演放（PLAY）或录像（REW）状态
下图为录像摄影机处于演放或录像状态时的机械位置图。紧带辊压合在主导轴之上。



演放或录像状态机械位置图

(6)快进（FF）或倒带（REW）状态
下图为录像摄影机处于快进或倒带状态时的机械位置图。与停止状态相比，偏心销逆时针转动，处于供带盘座的中心。



快进或倒带状态机械位置图

8-2. 磁带盒室控制装置

磁带盒室控制装置见下图2所示。

＜拆卸＞

(1)取下磁带盒室控制装置盖板。

(2)按下录像机框架上的出盒（EJECT）柄，让磁带盒室控制装置自动提起。或者，在准备状态下沿下图箭头所示方向推压锁扣杆，也可将磁带盒室控制装置提起。
（参见图1所示的方向（a）或方向（b））
(沿箭头所示的(a)方向推压时，将磁带盒室控制装置用手轻轻地提起而进行拆卸)

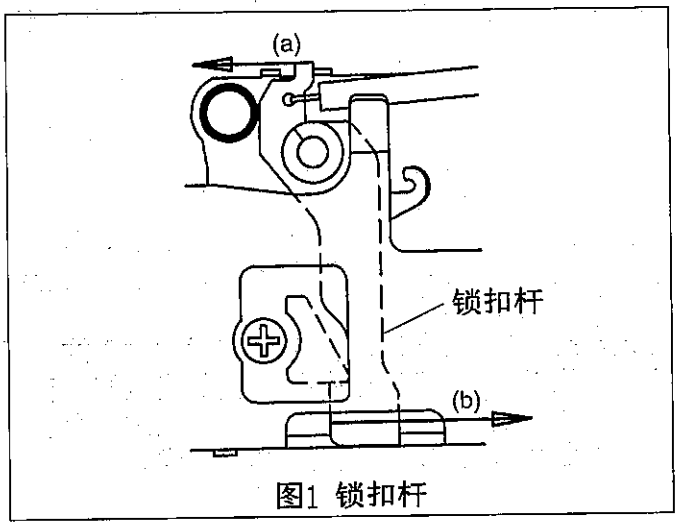


图1 锁扣杆

(3)取下磁鼓盖罩。

(4)松去图2所示的4支螺丝(c)，再取下带盒下滑导槽(d)。

(5)松去图2所示的1支螺丝(e)，再将阻尼器(f)向外滑出，取出之。 然后，松开辅助弹簧（g）与主机芯的钩挂，取出之。

(6)从主机芯架的凹槽（i ）（两处）中松开磁带盒室控制装置外联箍上的扣钉（h）（两处），将两扣钉暂搁放在主机芯架的（j）部分之上（图中用斜线表示的部分。）

(7)让磁带盒室控制装置保持在下部位置，将内臂轴（k）向主机芯架上的槽孔（l）（圆形）后方滑移。（这时，要特别小心，勿让阻尼柄（m）挂上AHC 松解弹簧。）

(8)轻轻向内弯曲内臂轴（k），将其从主机芯架上的槽孔中取出。（这时，要特别小心，切勿让内臂轴发生永久性变形。）

＜重装＞

(1)设录像摄影机于准备状态。（参照9-1节（2）所述）

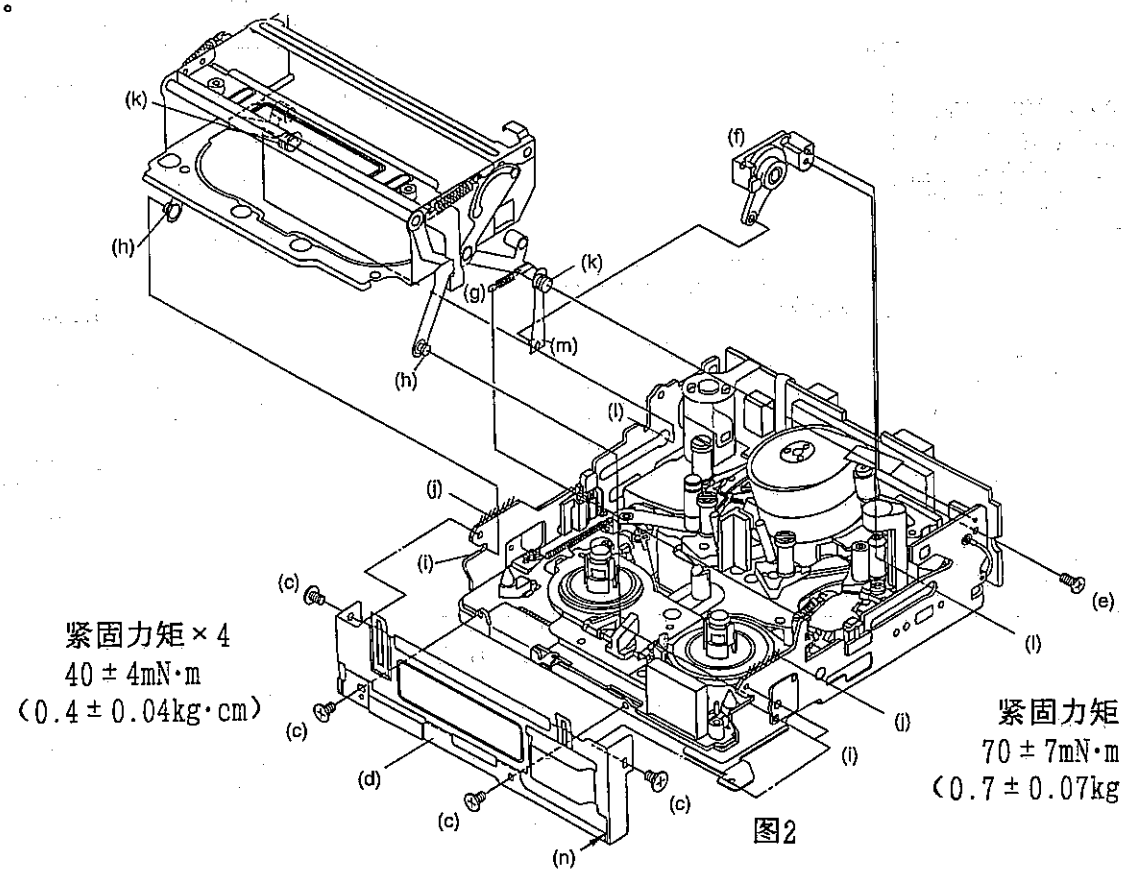
(2)将内臂轴（k）插于其主机芯架上的槽孔（l）之中。（象拆卸时一样， 特别小心，切勿让内臂轴发生永久性变形。）

(3)将外联箍扣钉（h）先放在主机芯架的（j）部之上，然后， 在慢慢地从上至下地按下磁带盒室控制装置的同时，向前滑移扣钉（h），让其卡扣插进其主机芯架上的凹槽（i）之中。

(4)钩挂上辅助弹簧（g），装上阻尼器（f）。

(5)装上带盒下滑导槽。（安装时，按住（n）部，旋紧螺丝。）

(6)装上磁鼓盖罩及磁带盒室控制装置的盖板。



紧固力矩×4
40±4mN·m
(0.4±0.04kg·cm)

紧固力矩
70±7mN·m
(0.7±0.07kg·cm)

图2

8-3. 用电路板代替拆去的磁带盒室控制装置进行操作的方法。

用此方法进行操作时，如稍有差错，便会有导致录像摄影机的机构以及磁带发生损坏的危险因此，除测倒放（VS-REW）转矩等一些有特殊要求的情况外，一般不采用此方法进行检测。一般性检测都要求将磁带盒室控制装置相连使用。
用此方法时，请留意下述的每项注意事项。

(1)设录像摄影机于出盒（EJECT）状态。
(2)用FPC工具作为中继连接，将机械部分与主电路板相连。（参照9-1 节所述）
(3)取下锁扣凸轮（1）。

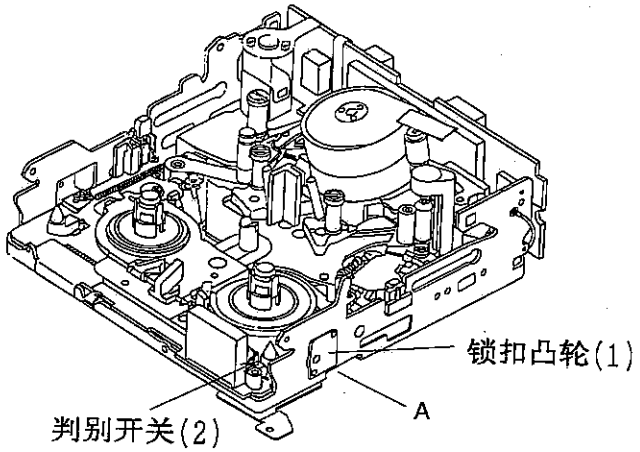


图3

(4)从机械部分的前部，按图5中箭头所示方向按住下移（DOWN）开关和卷带锁扣松解柄，同时用一只一字口螺丝刀将图4所示薄纸（约0.5mm厚）插入图5 所示的机械部分的后部。然后，松开下移开关和卷带锁扣松解柄。（作此项操作，使开关打开）作此项操作时，切勿造成卷带锁扣松解柄发生永久性变形。
(5)松开卷带锁扣松解柄后，检查卷带盘座双方向的转动是否圆滑。

注意：如卷带锁扣松解柄没松开，转动时会发出咔哒响声；这种场合，如装入有磁带，带盘被锁定会造成磁带以及机械部件的损坏。
注意：设录像摄影机于录像状态时，按下判别开关(2)标有☆记号的销。
（其他状态的设定不需这样做。）
(6)录像摄影机由调整遥控器设定为调试状态(T01)且不装磁带时，可以通过状态（MODE）键指定机械部分的动作状态。
(7)最后作出盒动作时，取出步骤(4)中插入的薄纸。
注意：绝对切勿按压录像摄影机内的出盒杆。否则，会造成该杆及凸轮的损伤。下盒过程中，如发生咔哒响声，说明其内不正常。

（用纸厚约为0.55mm的薄纸）

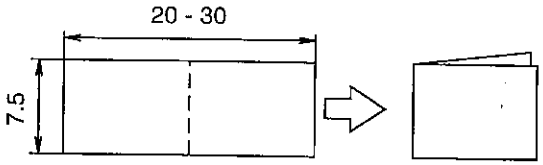


图4

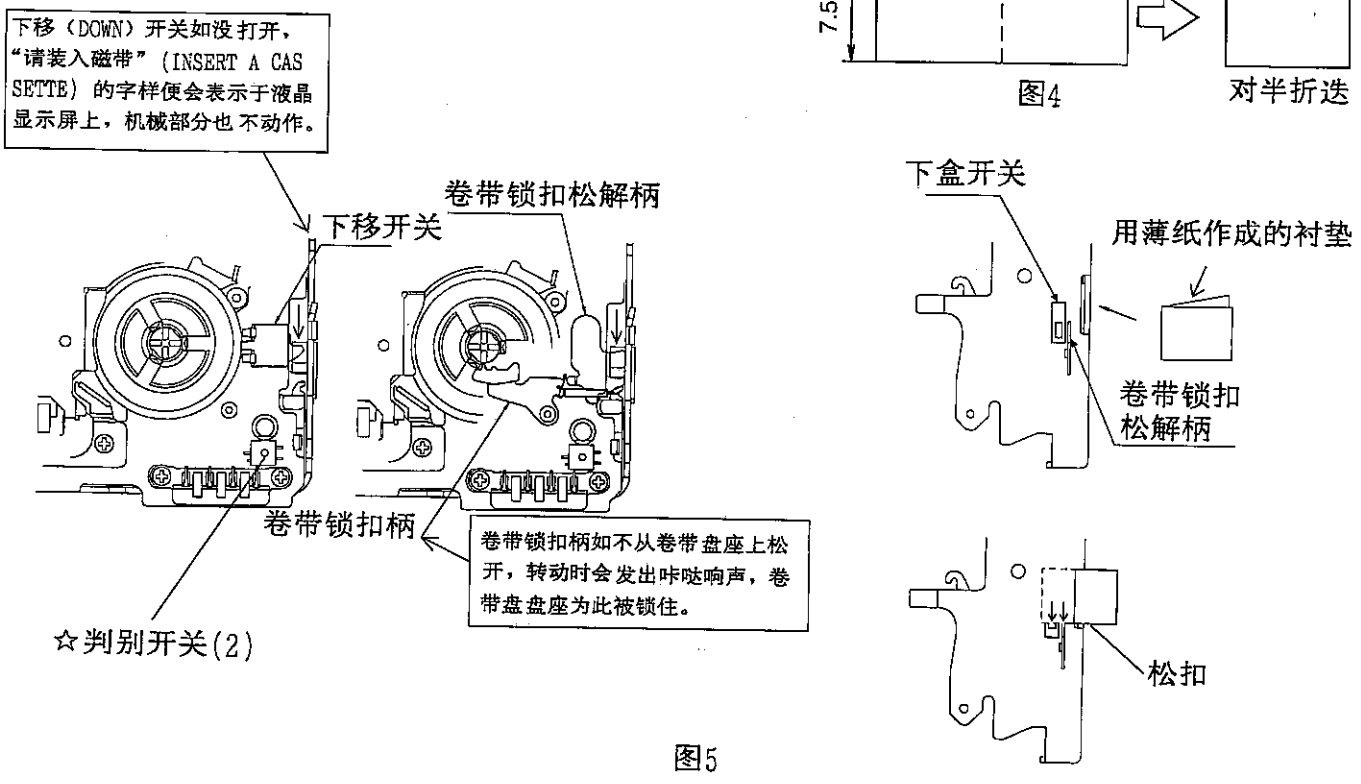


图5

8-4. 相位校合

对下列部件需按图6所示要领校合其相位。

(1)状态(MODE)开关
(2)主凸轮
(3)凸轮联接齿轮
(4)紧带凸轮

注：拆卸之前，先仔细确认各标记位置。
注：相位校合进行完毕，用手旋转状态（MODE）开关，检查其是否能完成一周的旋转。
（检查完毕后，必须将其开关转回至原始位置）

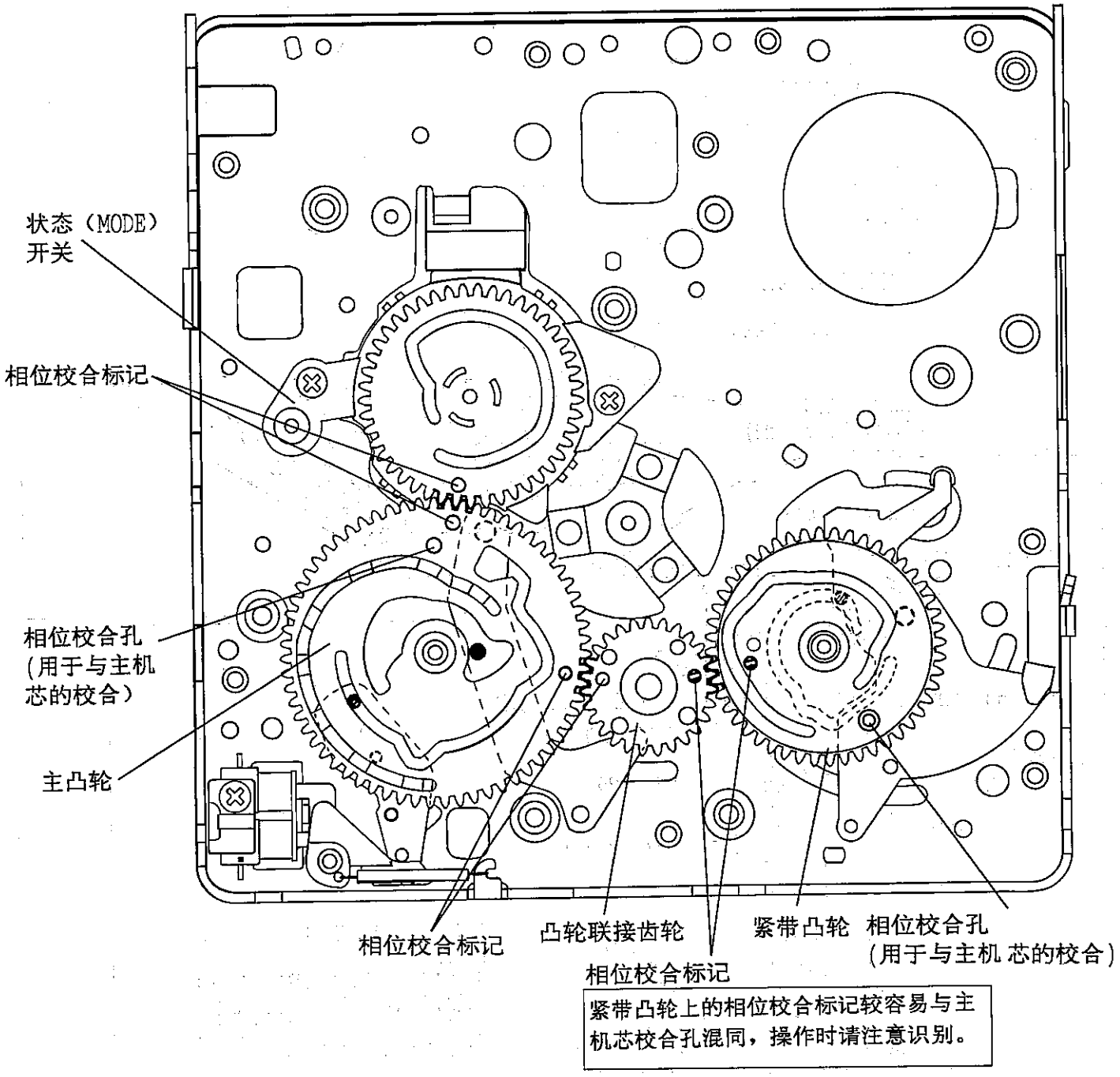
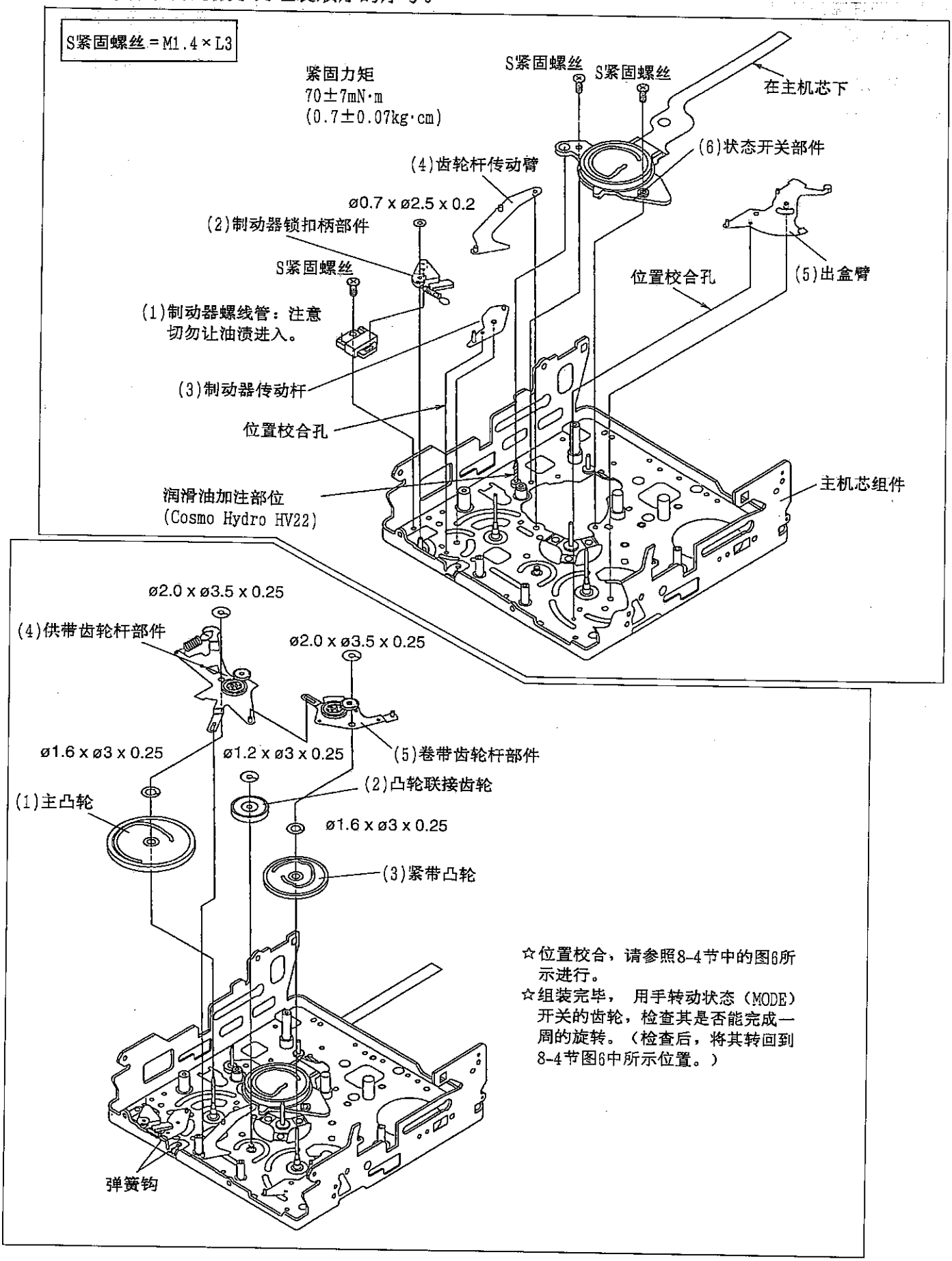


图6

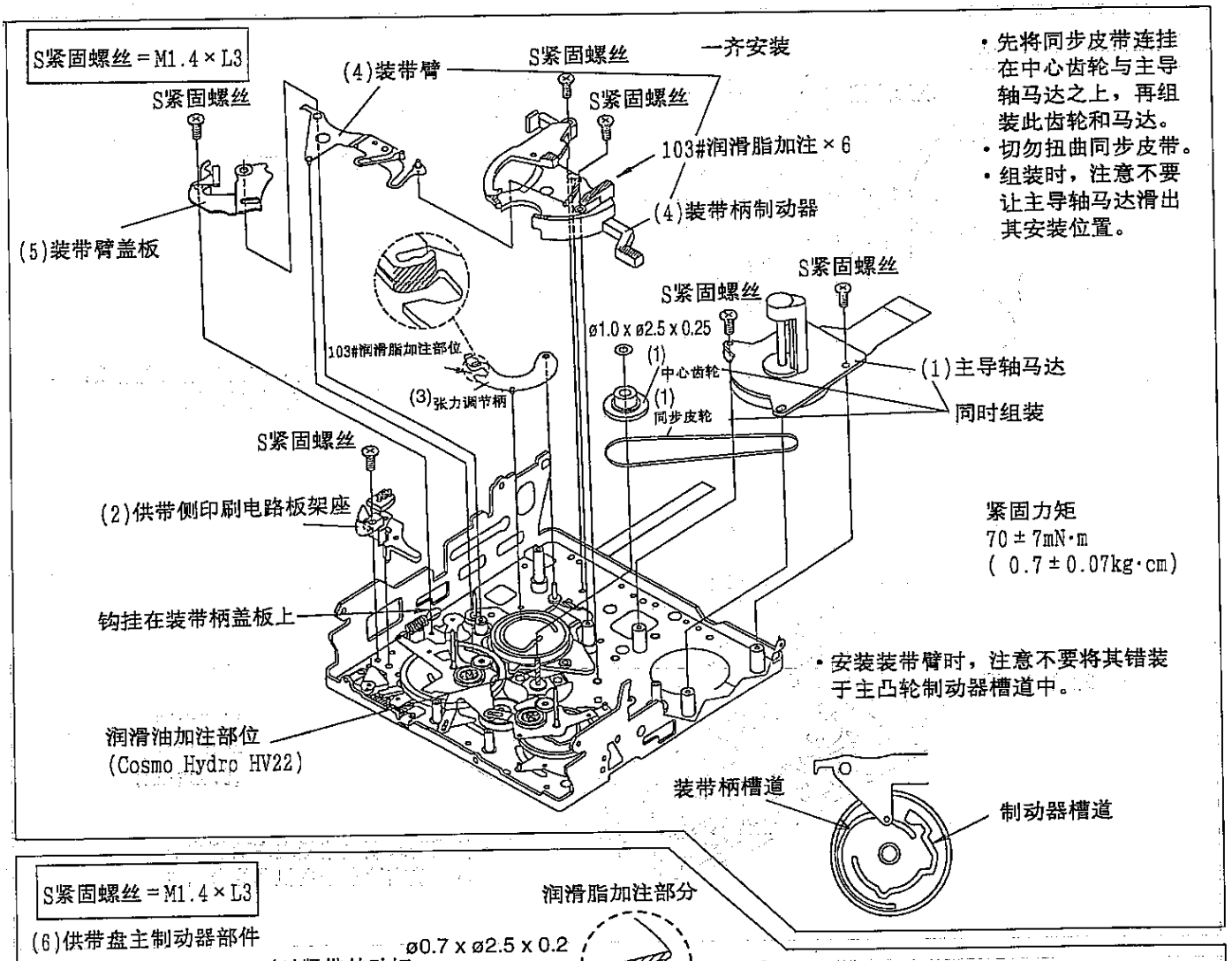
8-5. 组装

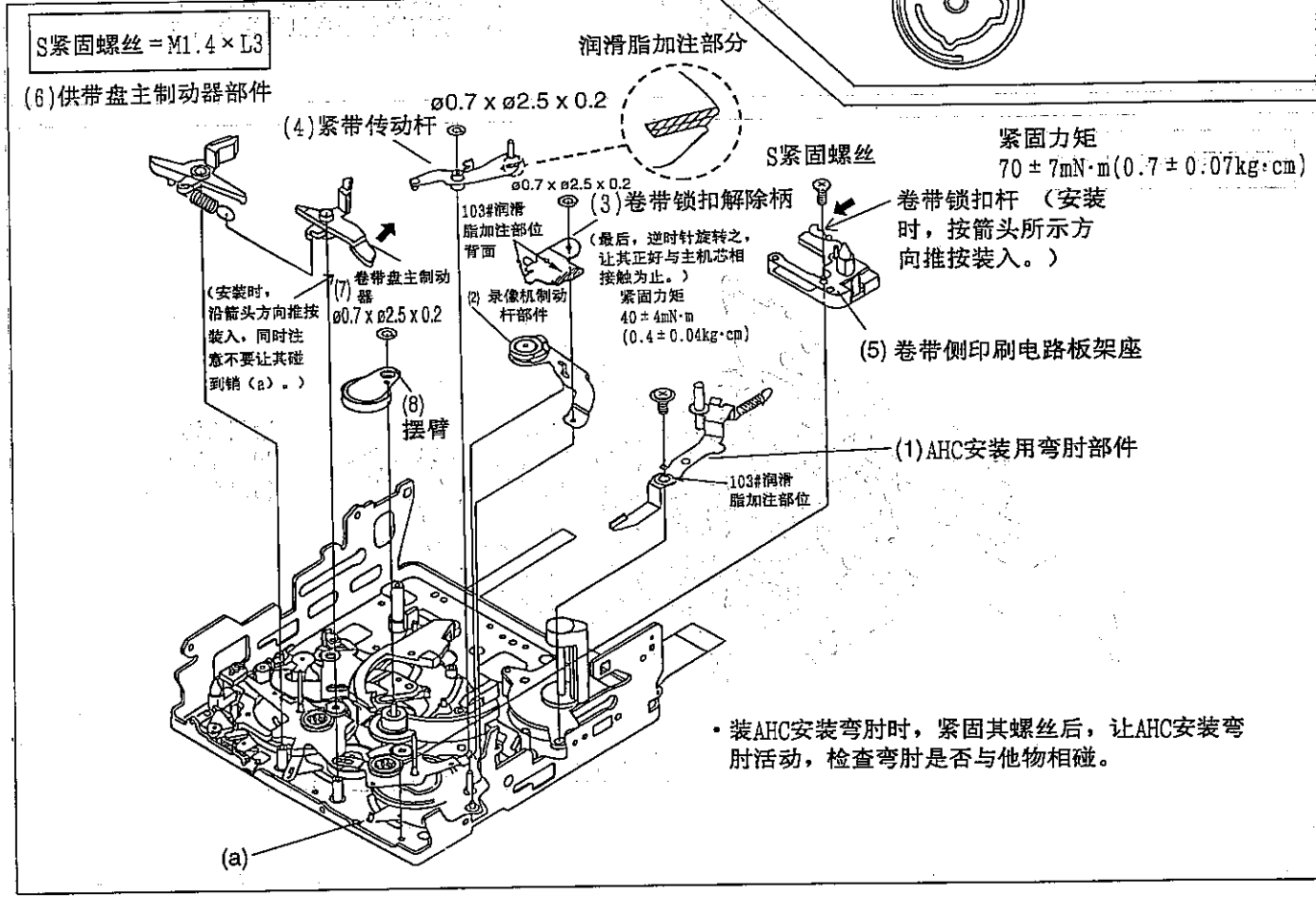
注：位于零件名前的数字为组装顺序的序号。



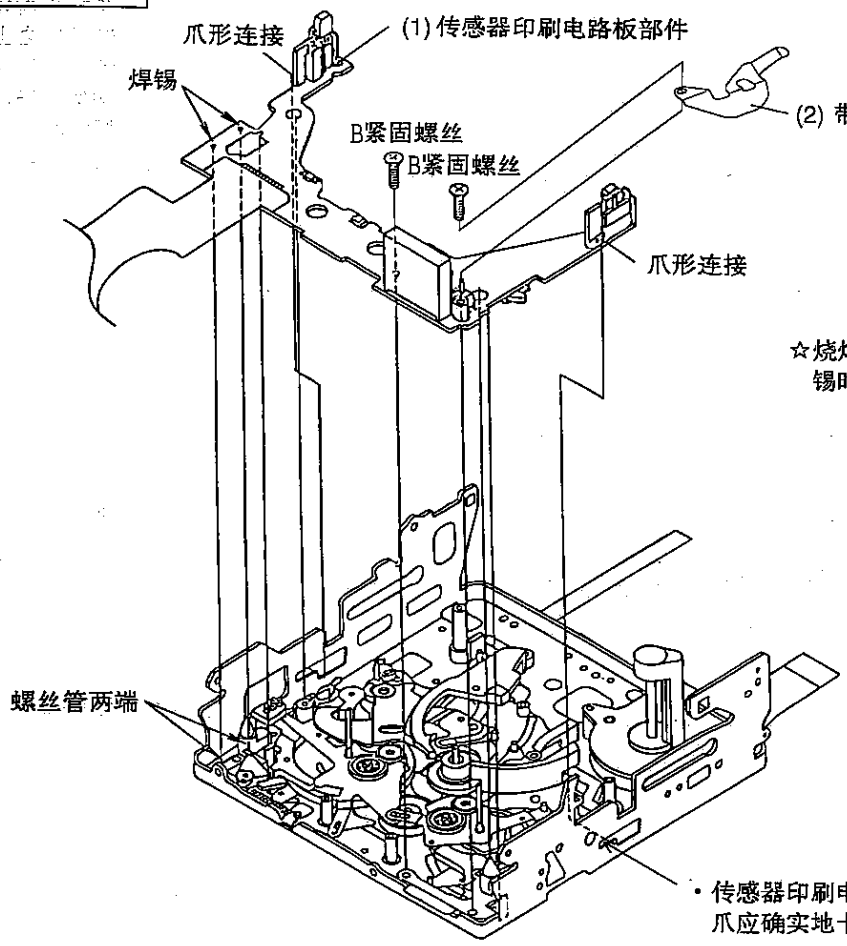
☆位置校合，请参照8-4节中的图6所示进行。

☆组装完毕， 用手转动状态（MODE）开关的齿轮，检查其是否能完成一周的旋转。（检查后，将其转回到8-4节图6中所示位置。）


S紧固螺丝＝M1.4×L3
(4)装带臂
S紧固螺丝
一齐安装
S紧固螺丝
S紧固螺丝
103#润滑脂加注×6
(4)装带柄制动器
(5)装带臂盖板
S紧固螺丝
S紧固螺丝
ø1.0 x ø2.5 x 0.25
(1)
中心齿轮
(1)主导轴马达
103#润滑脂加注部位
(3)张力调节柄
(1)
同步皮轮
同时组装
S紧固螺丝
(2)供带侧印刷电路板架座
钩挂在装带柄盖板上
润滑油加注部位
(Cosmo Hydro HV22)
• 先将同步皮带连挂在中心齿轮与主导轴马达之上，再组装此齿轮和马达。
• 切勿扭曲同步皮带。
• 组装时，注意不要让主导轴马达滑出其安装位置。
紧固力矩
70±7mN·m
(0.7±0.07kg·cm)
• 安装装带臂时，注意不要将其错装于主凸轮制动器槽道中。
装带柄槽道
制动器槽道


S紧固螺丝＝M1.4×L3
(6)供带盘主制动器部件
润滑脂加注部分
ø0.7 x ø2.5 x 0.2
(4)紧带传动杆
ø0.7 x ø2.5 x 0.2
S紧固螺丝
紧固力矩
70±7mN·m(0.7±0.07kg·cm)
103#润滑脂加注部位背面
(3)卷带锁扣解除柄
卷带锁扣杆 (安装时，按箭头所示方向推按装入。)
(最后，逆时针旋转之，让其正好与主机芯相接触为止。)
紧固力矩
40±4mN·m
(0.4±0.04kg·cm)
(安装时，沿箭头方向推按装入，同时注意不要让其碰到销(a)。)
(7)卷带盘主制动器
ø0.7 x ø2.5 x 0.2
(2)录像机制动杆部件
(5)卷带侧印刷电路板架座
(8)摆臂
(1)AHC安装用弯肘部件
103#润滑脂加注部位
(a)
• 装AHC安装弯肘时，紧固其螺丝后，让AHC安装弯肘活动，检查弯肘是否与他物相碰。

B紧固螺丝=M1.4×L6

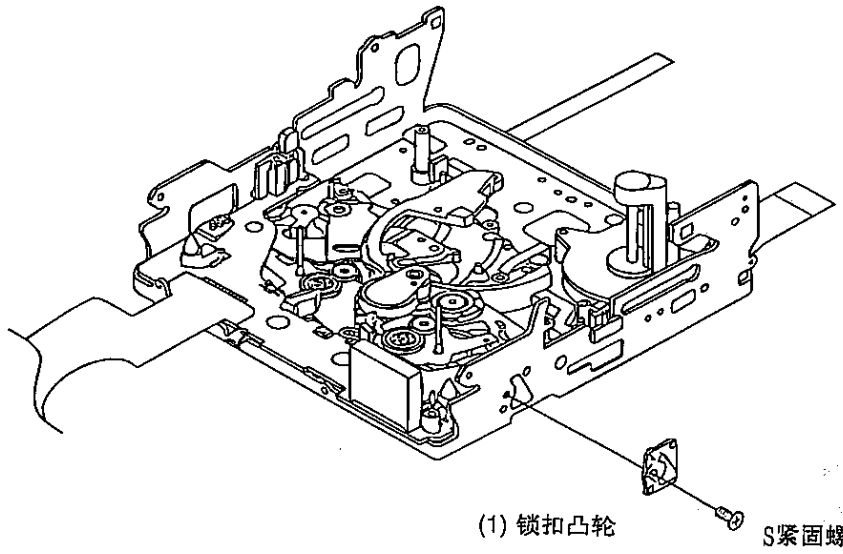


☆烧焊锡时，应用较小的电烙铁，焊锡时间不得超过3秒。

紧固力矩
40±4mN·m
(0.4kg·cm)

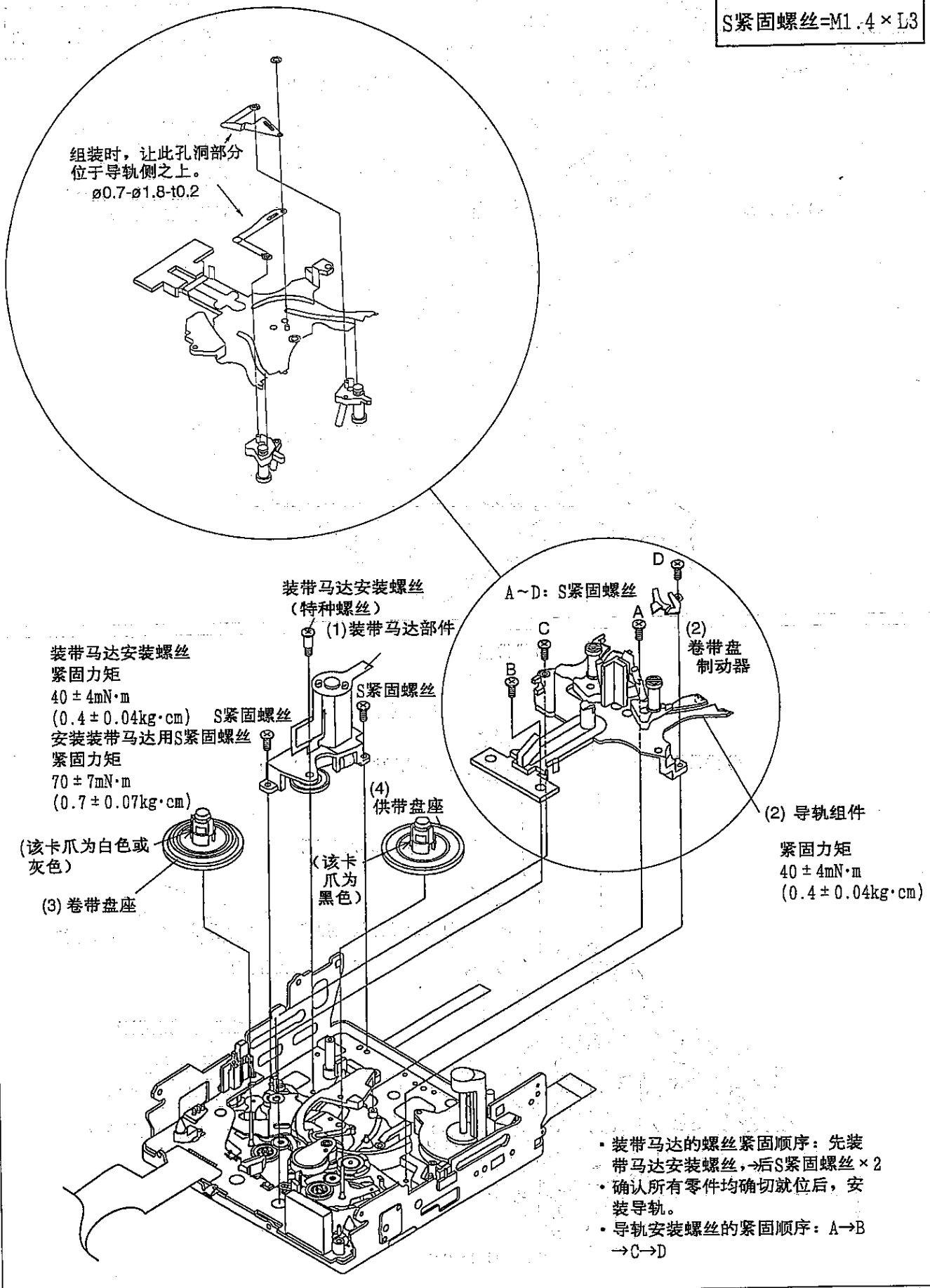
·传感器印刷电路板左右两侧的卡爪应确实地卡于主机芯的卡孔中。

S紧固螺丝=M1.4×L3

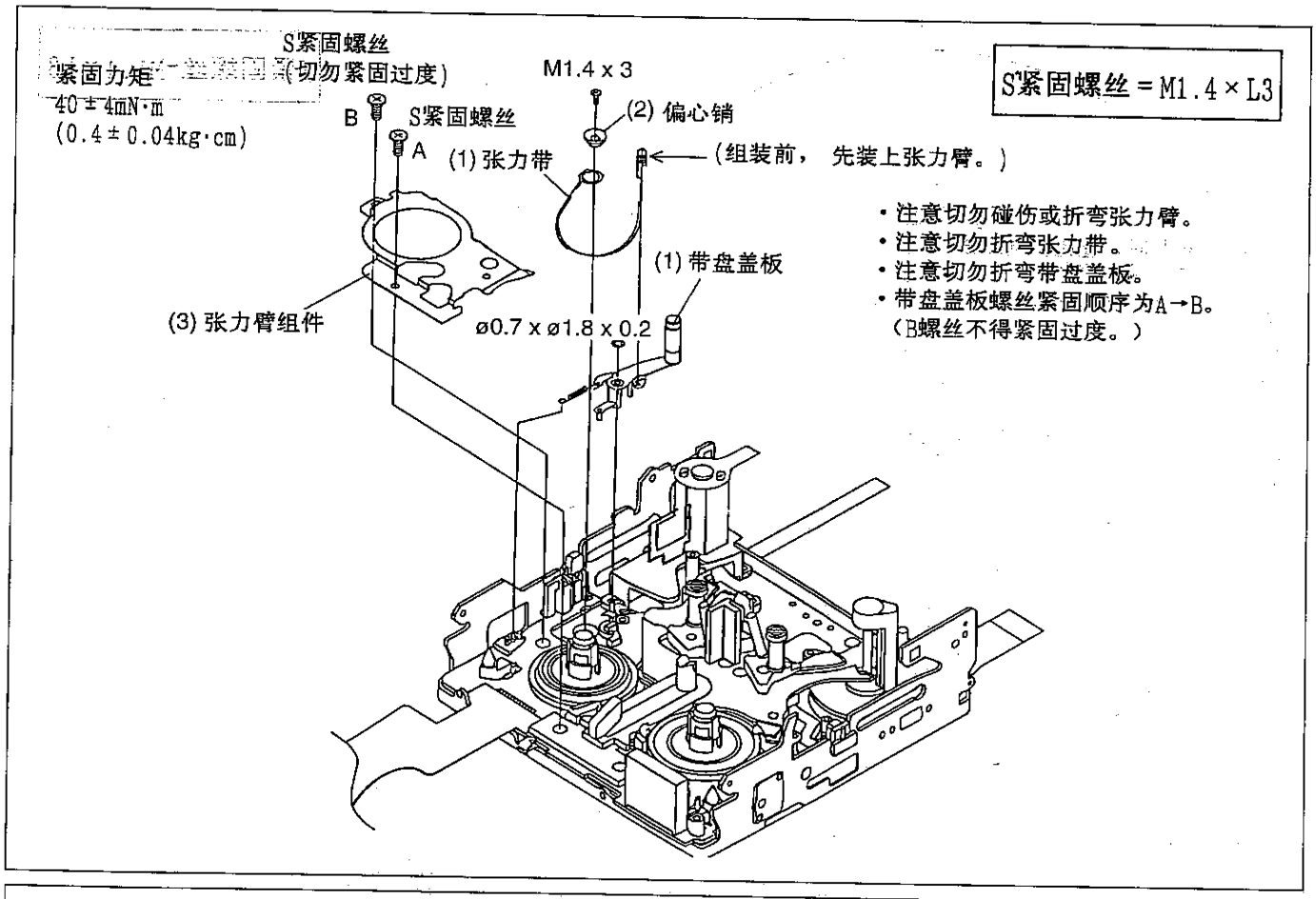


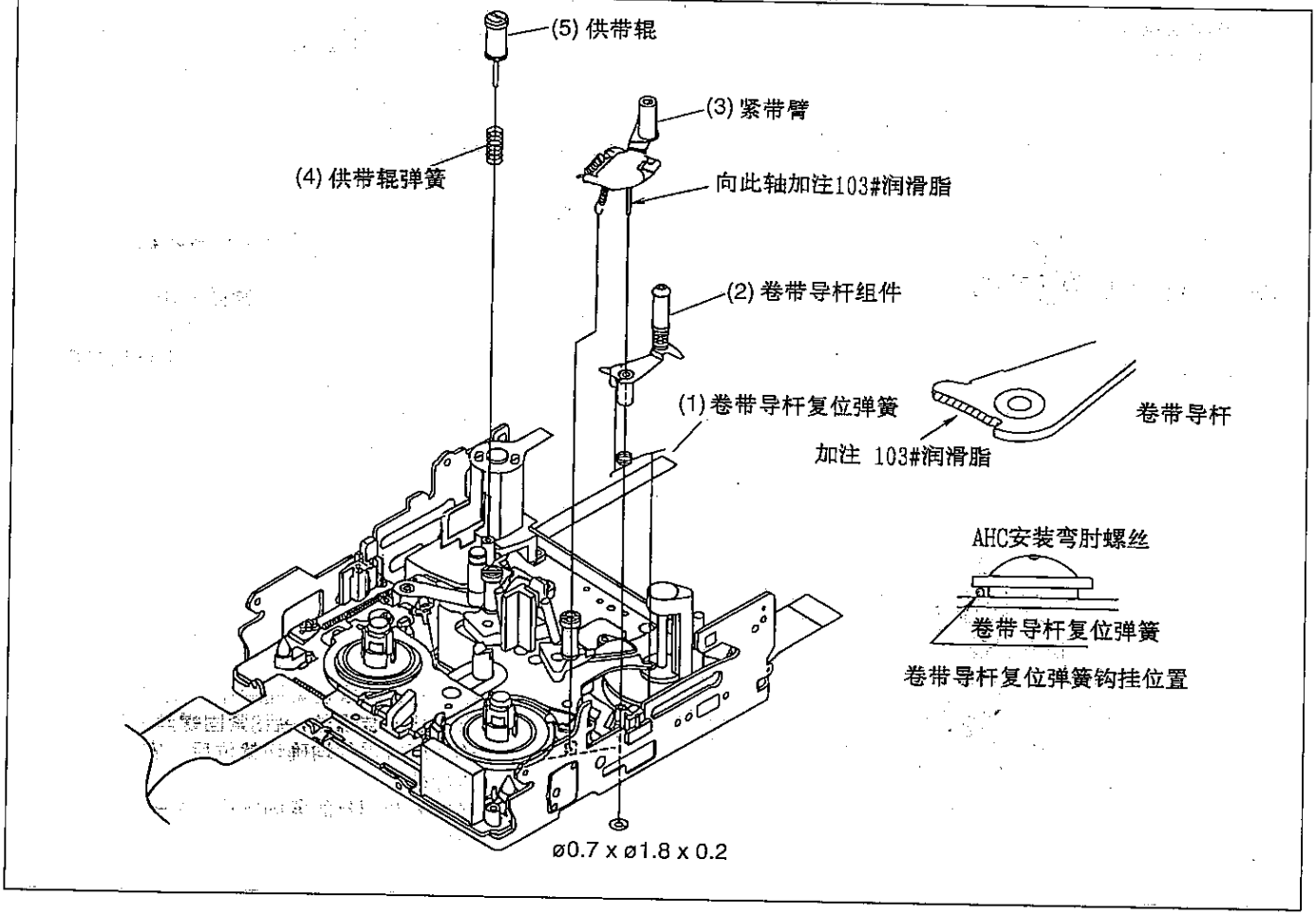
紧固力矩
40±4mN·m
(0.4±kg·cm)

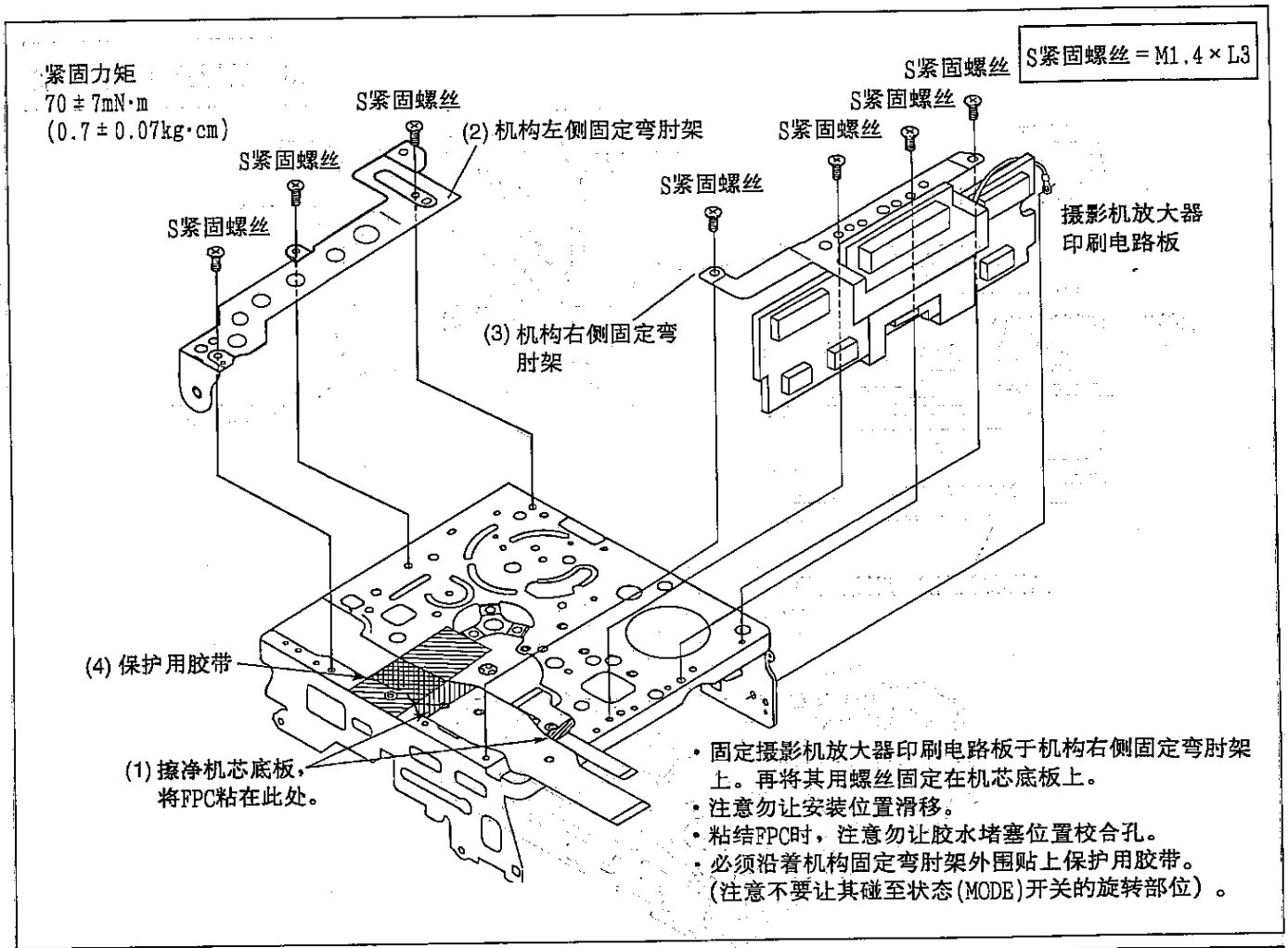
S紧固螺丝=M1.4×L3

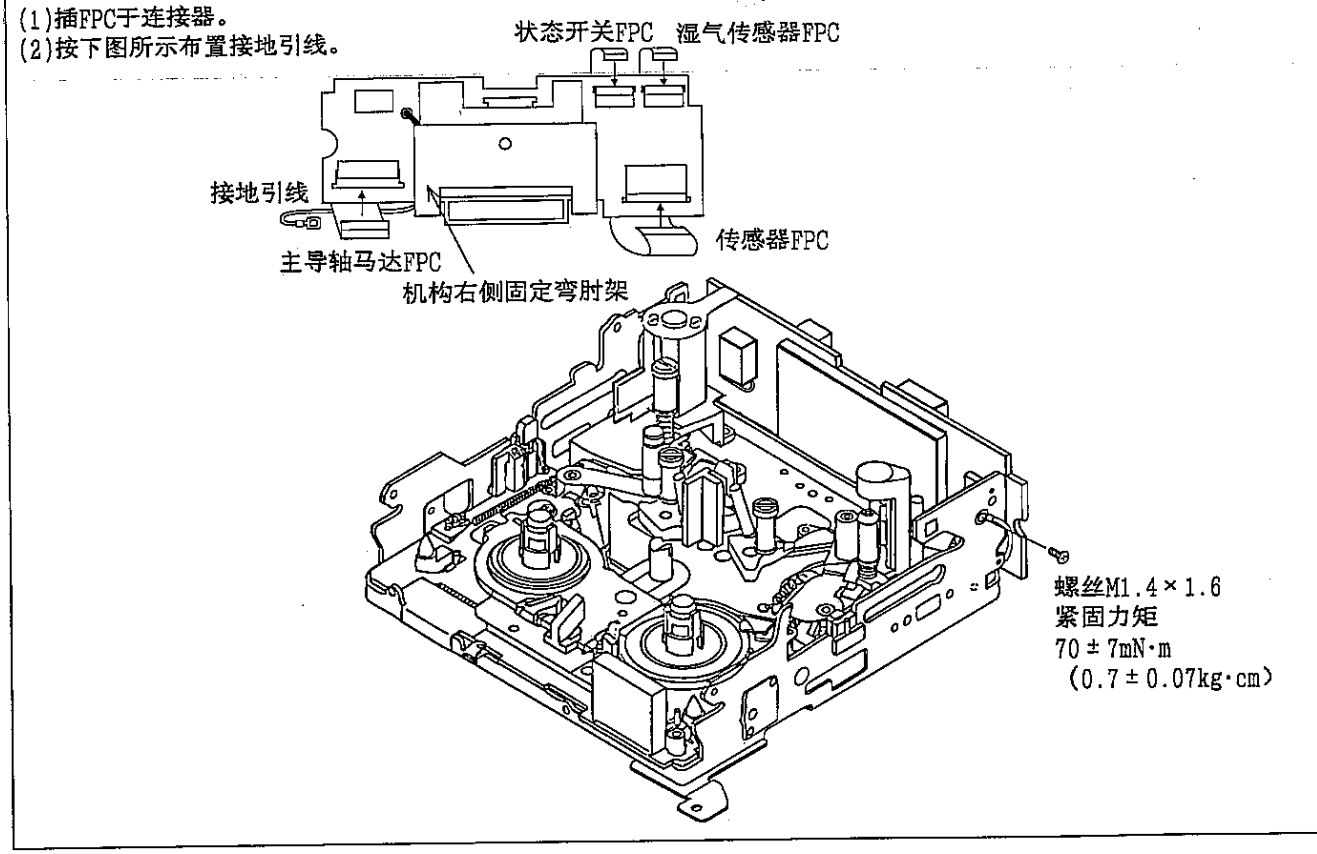


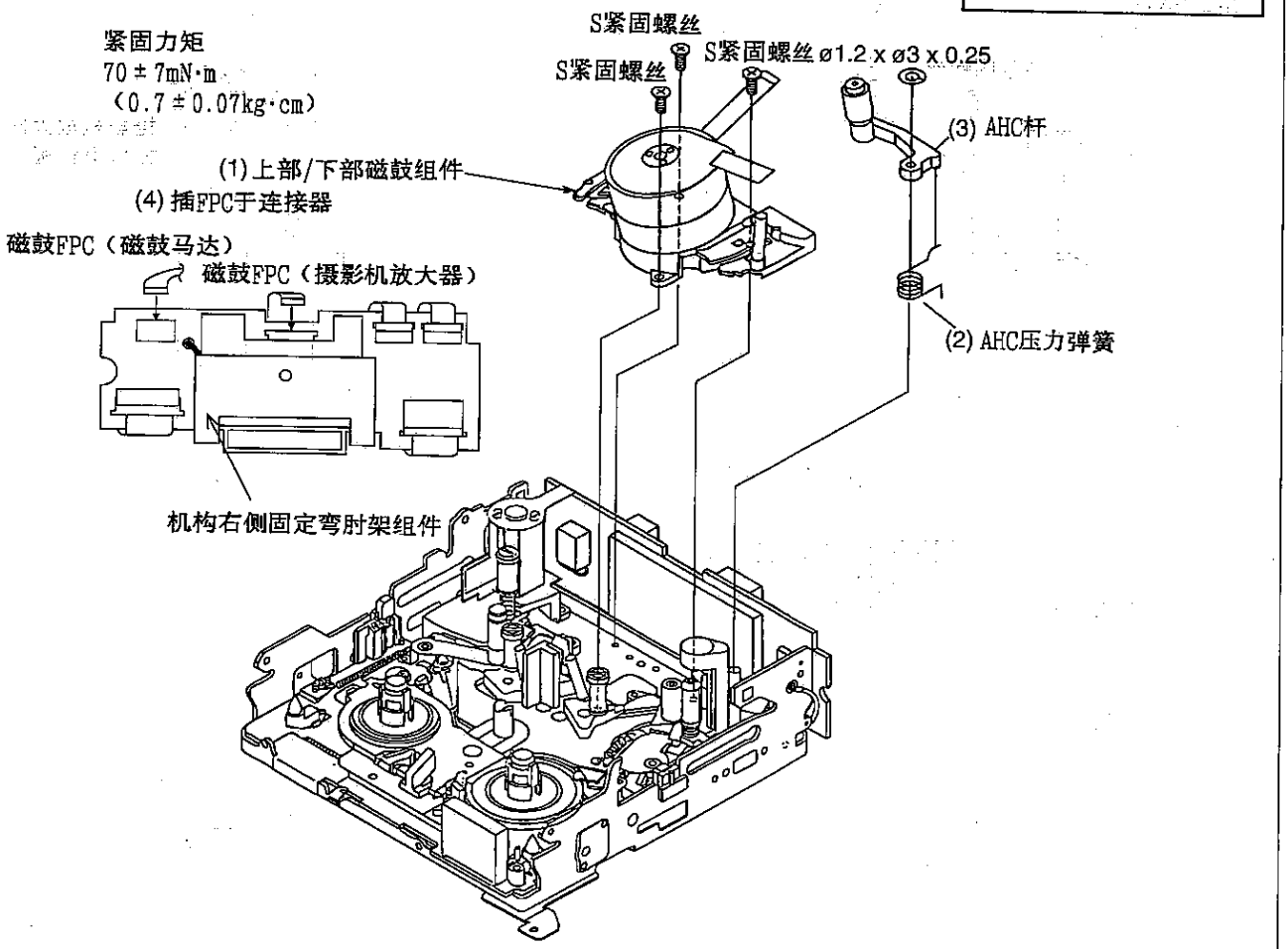
- 装带马达的螺丝紧固顺序：先装带马达安装螺丝，→后S紧固螺丝×2
- 确认所有零件均确切就位后，安装导轨。
- 导轨安装螺丝的紧固顺序：A→B→C→D


S紧固螺丝
紧固力矩
40±4mN·m
(0.4±0.04kg·cm)
(切勿紧固过度)
M1.4 x 3
B
S紧固螺丝
A
(1) 张力带
(2) 偏心销
(组装前， 先装上张力臂。)
S紧固螺丝 = M1.4 × L3
• 注意切勿碰伤或折弯张力臂。
• 注意切勿折弯张力带。
• 注意切勿折弯带盘盖板。
• 带盘盖板螺丝紧固顺序为A→B。
（B螺丝不得紧固过度。）
(1) 带盘盖板
(3) 张力臂组件
ø0.7 x ø1.8 x 0.2


(5) 供带辊
(3) 紧带臂
(4) 供带辊弹簧
向此轴加注103#润滑脂
(2) 卷带导杆组件
(1) 卷带导杆复位弹簧
卷带导杆
加注 103#润滑脂
AHC安装弯肘螺丝
卷带导杆复位弹簧
卷带导杆复位弹簧钩挂位置
ø0.7 x ø1.8 x 0.2


S紧固螺丝 = M1.4 × L3
紧固力矩
70 ± 7mN·m
(0.7 ± 0.07kg·cm)
S紧固螺丝
S紧固螺丝
S紧固螺丝
S紧固螺丝
S紧固螺丝
S紧固螺丝
(2) 机构左侧固定弯肘架
(3) 机构右侧固定弯肘架
摄影机放大器印刷电路板
(4) 保护用胶带
(1) 擦净机芯底板，将FPC粘在此处。
• 固定摄影机放大器印刷电路板于机构右侧固定弯肘架上。再将其用螺丝固定在机芯底板上。
• 注意勿让安装位置滑移。
• 粘结FPC时，注意勿让胶水堵塞位置校合孔。
• 必须沿着机构固定弯肘架外围贴上保护用胶带。(注意不要让其碰至状态(MODE)开关的旋转部位）。


(1)插FPC于连接器。
(2)按下图所示布置接地引线。
状态开关FPC
湿气传感器FPC
接地引线
传感器FPC
主导轴马达FPC
机构右侧固定弯肘架
螺丝M1.4 × 1.6
紧固力矩
70 ± 7mN·m
(0.7 ± 0.07kg·cm)


S紧固螺丝 = M1.4×L3
紧固力矩
70 ± 7mN·m
（0.7 ± 0.07kg·cm）
S紧固螺丝
S紧固螺丝
S紧固螺丝 ø1.2 x ø3 x 0.25
(3) AHC杆
(1) 上部/下部磁鼓组件
(4) 插FPC于连接器
磁鼓FPC（磁鼓马达）
磁鼓FPC（摄影机放大器）
(2) AHC压力弹簧
机构右侧固定弯肘架组件

9. 电路的调整

一电路调整的注意事项一

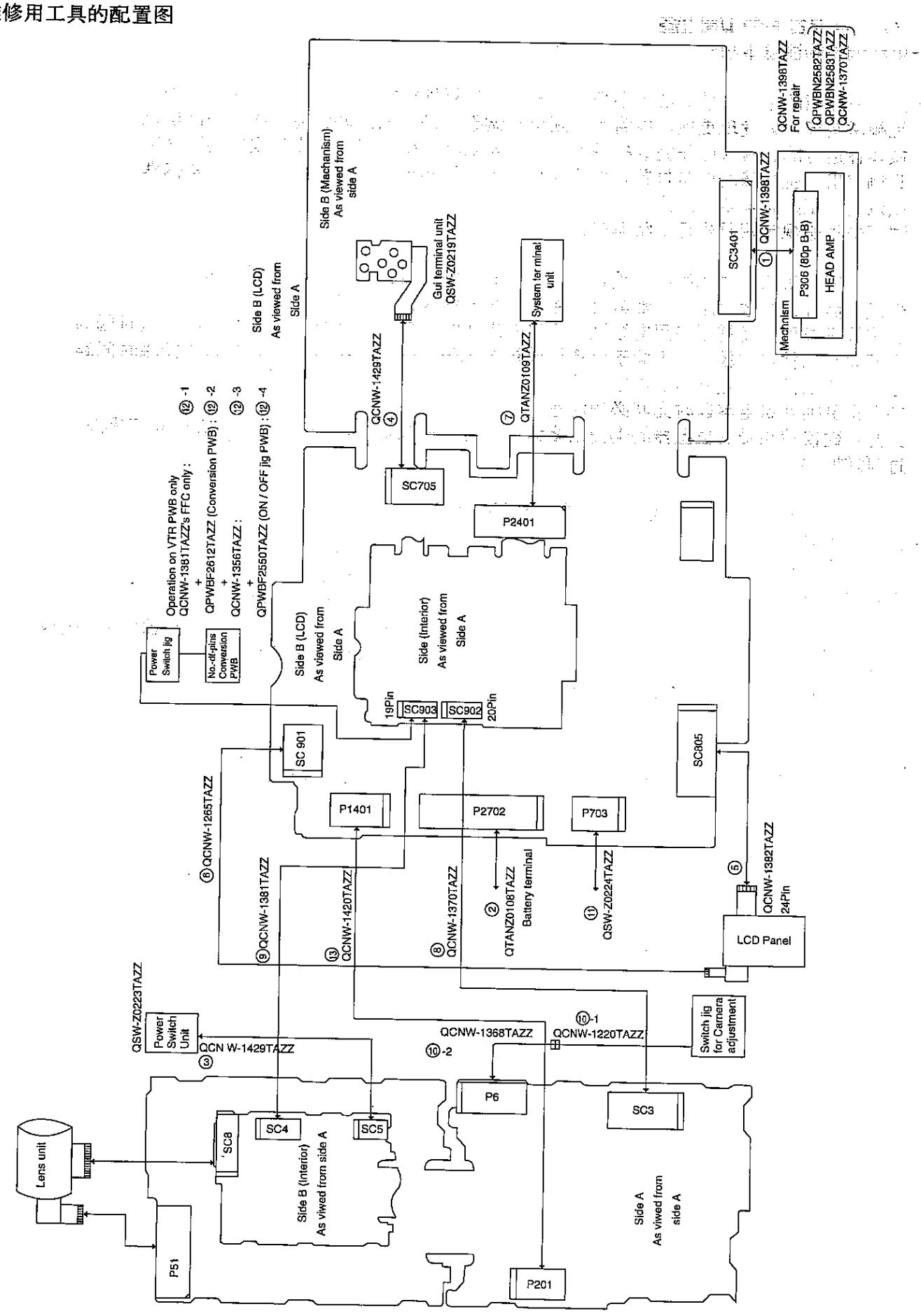
• 这里所介绍的电路调整方法大多数都是与一些消耗性机械零件的更换有关。比如视频磁头等，如发现更换，电路则必须重新调整。进行电路调整前，必须先确认机械零件运行的正常（即先完成机械调整）。如电路发生故障，应先用规定的测量工具测定出发生故障的电路位置，然后再采取相应的必要措施。这些措施可以是修理或调整，正好是本章下述内容。
请切勿用非规定用具进行电路调整。

• 本录像摄影机为追求体积小、重量轻，其中的电路均设计为印刷电路板（PWB ）形式，而且大多数电路元件都具有高密度、小安装表面之特点。
实施修理或更换而需要使用电烙铁进行接头焊接时，应尽可能缩短其施焊时间。这时因为表面安装元件尺寸较小，不同于电视机或录像机等内的大型组合元件，电烙铁接触时间超过规定要求便有引起其内部烧毁之危险。
特别是更换片状电容器时尤其必须注意。
为此，建议使用带有恒温器的陶瓷电烙铁。（电烙铁尖端温度为250℃，熔焊时间不得超过5秒钟。）

9-1. 液晶电视荧屏的调整

• 调整用工具
  • 监控用彩色电视机
  • 数值式伏特计
  • 视频信号发生器（NTSC图案发生器LCG-401/401YC）
  • 音频信号发生器（CR发生器）
  • 交流转换器
  • 立体声AV（声/像）输出用电缆（附带）
  • 示波器
  • 计频器
  • 无内容录像带
  • 直流电缆（与交流转换器配套附带）
  • 录像部分延长电缆
  • 矢量显示器
  • 直流电源
  • 校正用磁带90ADVC-TAPEPAL（彩条）
  • 调整用遥控器

维修用工具的配置图

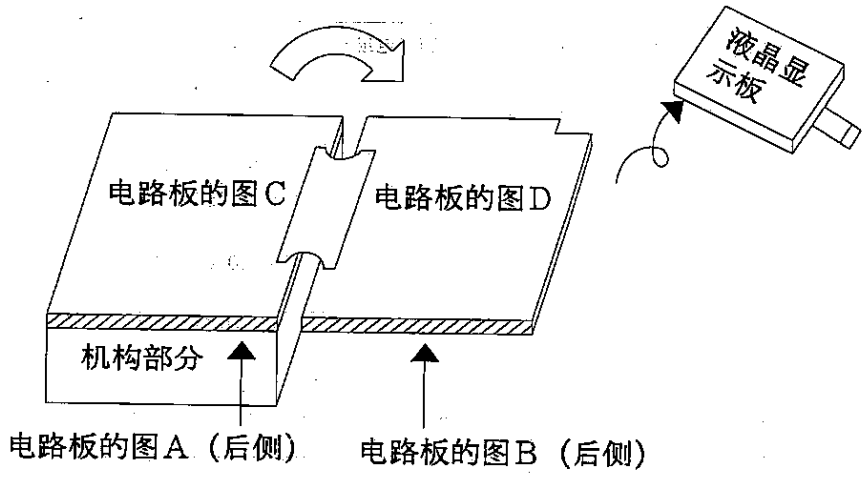

QCNW-1398TAZZ
For repair
QPWBN2582TAZZ
QPWBN2583TAZZ
QCNW-1370TAZZ
Side B (Machanism)
As viewed from
side A
Side B (LCD)
As viewed from
Side A
Gui terminal unit
QSW-Z0219TAZZ
System ter minal unit
SC3401
QCNW-1398TAZZ
P306 (80p B-B)
HEAD AMP
Mechnism
QCNW-1429TAZZ
QTANZ0109TAZZ
SC705
P2401
Operation on VTR PWB only
QCNW-1381TAZZ's FFC only : ⑫ -1
+
QPWBF2612TAZZ (Conversion PWB) : ⑫ -2
+
QCNW-1356TAZZ : ⑫ -3
+
QPWBF2550TAZZ (ON / OFF jig PWB) : ⑫ -4
Power Switch jig
No.-of-pins Conversion PWB
Side B (LCD)
As viewed from
Side A
Side (Interior)
As viewed from
Side A
19Pin
SC903
SC902
20Pin
SC 901
SC805
⑥QCNW-1265TAZZ
P1401
P2702
P703
⑨QCNW-1381TAZZ
⑬QCNW-1420TAZZ
⑧QCNW-1370TAZZ
② QTANZ0108TAZZ
Battery terminal
⑪ QSW-Z0224TAZZ
⑥ QCNW-1382TAZZ
24Pin
LCD Panel
QSW-Z0223TAZZ
Power Switch Unit
③ QCN W-1429TAZZ
⑩-1 QCNW-1368TAZZ
⑩-2 QCNW-1220TAZZ
Switch jig for Camera adjustment
P6
SC3
SC4
SC5
SC8
Lens unit
Side B (Interior)
As viewed from side A
Side A
As viewed from
side A
P51
P201

调整用工具的规格

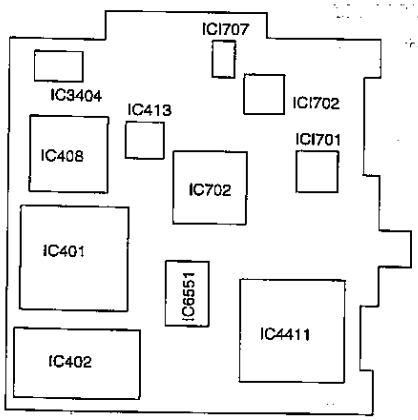
序号	连接元件	连接器参考 编号	引脚数	间距	电缆长	零件编号
1)	H/A ↔ VCR	P306 ↔ SC3401	80B-B	0.5		QCNW-1398TAZZ
(1)	H/A	P306	↓	↓		QPWBN2582TAZZ
(2)	VCR	SC3401	↓	↓		QPWBN2583TAZZ
(3)	FFC		20	↓	200	QCNW-1370TAZZ
2)	电池端	P2702 ←	14			QTANZ0108TAZZ 同配套装置使用
3)	电源开关	SC5 ↔ 电源开关装置	8	0.8		QCNW-1429TAZZ
4)	GUI OPE.	SC705 ↔ 装置	8	↓		QCNW-1429TAZZ
5)	VCR ↔ 液晶显示板	SC805 ↔ 液晶屏	24	0.5		QCNW-1382TAZZ
6)	VCR ↔ INV	SC8901 ↔ INV	7	↓		QCNW-1265TAZZ
7)	VCR ↔ 系统接续端	P2401 ↔ 系统接续端	60B-B	↓		QTANZ0109TAZZ 同配套装置使用
8)	CAM1 FFC	SC902 ↔ SC3	20	↓		QCNW-1370TAZZ
9)	CAM2 FFC	SC903 ↔ SC4	19	↓		QCNW-1381TAZZ
10-1)	CAM ADJ	P6 ←	26	0.8		QCNW-1220TAZZ
-2)						QCNW-1368TAZZ
11)	EJECT SW	P703 ←	3			QSW-Z0224TAZZ 同配套装置使用
12-1)	电源开关（单独操作VCR电路板时）	SC903 ↔ 引脚数转换 引脚数转换从19引脚转换为18引脚	19	0.5		QCNW-1381TAZZ
-2)						QPWBF2612TAZZ
-3)		引脚数转换 ← → 电源开关	18	0.5		QCNW-1356TAZZ
-4)						QPWBF2550TAZZ
13)	CAM ↔ VCR	P201 ↔ P1401	4	1.25		QCNW-1420TAZZ
14)	调整用遥控器					RRMCG0033TASA

★12号工具仅用于VCR（录像机）印刷电路板单独使用之场合，即该场合摄影机部分不需使用。

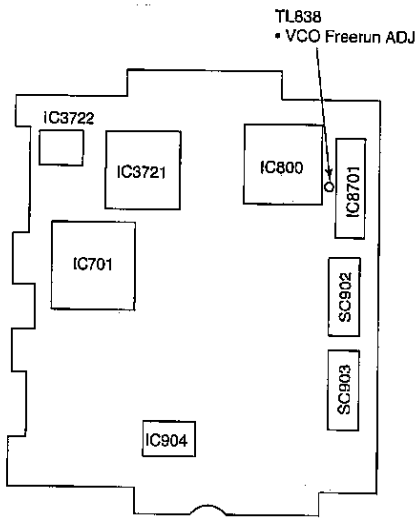
各电路板的配置图



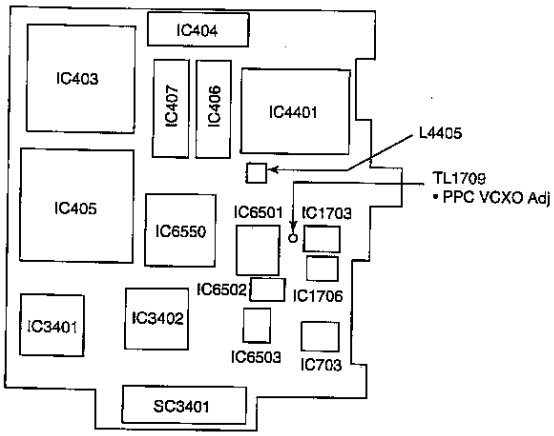
（电路板示意图C）



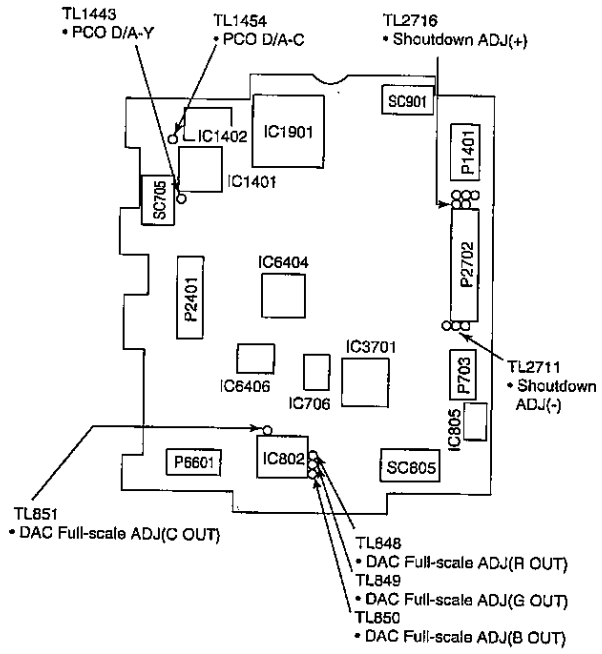
（电路板示意图D）



（电路板示意图A）



（电路板示意图B）



[调整]

伺服系统控制器及相关部件的调整

1．设定系统编码

IC706EEPROM的更换需要按下顺序设定其数据。

[步骤]

设录像摄影机于录像机功能的状态，按下表设定数据。

	地址	数据
1)型号编码	01 09	01 FE
2)目标编码	02 0A	0B (VL-DC1E), 0A (Vl-DC1H/S) F4 (VL-DC1E), F5 (VL-DC1H/S)
3)规格编码	03 0B	08 F7
4)项目单选择编码	04 0C	00 FF
5)软件切换编码	05 0D	00 FF
6)日历切换编码	07 0F	96 69
7)1/4跟踪	1F	FF

更换EEPROM时，按下表设定数据后进行各部位的调整。

背光器

地址	数据
10	F8
11	CC
12	89
13	44
14	BC
16	48
17	66
18	87
1B	01
1C	00

液晶屏

地址	数据
43	2C
4B	E2
4C	E7
4D	F6
4E	99
4F	2A
51	C6
52	2C
53	AC
54	CE
55	CE
56	F2
58	5C
59	11
5A	11
5B	F9
5C	01
5D	40
5E	08
64	62
69	40
6A	40
6B	40
6C	40

电磁转换器

地址	数据
25	80
26	80
27	48
28	80
2B	DA

电源装置

地址	数据
3B	82
3C	80

★有些调整的步骤数由实施下述情况的调整而定。

例如

1）更换EEPROM时

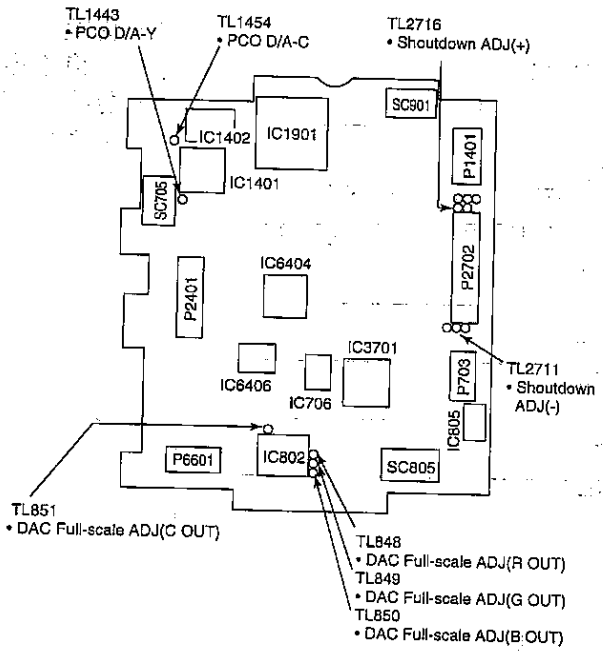
2）更换主电路板时

3）更换LCD时

4）更换机械系统时

2．关闭电压的调整

（电路板示意图B）



[步骤]

1）装入空白磁带。

2）设录像摄影机于摄像状态，并将其录像。

3）依顺触按调整遥控器上的“继续”（CONTINUE）键和“测试选择”（TEST SEL）键。

4）通过倒带（REW）、快进（FF）键选定测试状态T03，再触按演放（PLAY）键。

→该操作使工作状态转为关闭电压调整状态。

同时，荧屏上“T03”的闪现表示转为“录像”（REC）的正常表示。

5）用数值式万能表测出TL2716（＋）和TL2711（－）间的电压。加入外接电源电压，并使其电源电压调至+2.80VAC。

6）触按“背景光补偿”（ ►/▶◀ ）键。（背景光补偿指示灯由蓝色变为黄色。）

→该操作是自动调整的操作。

同时，“电池”（BATTERY）的指示灯也亮启片刻，以示自动调整完成。

7）触按调整遥控器上的“继续”（CONTINUE）键。

3．HSWP的调整

[步骤]

1）在录像机功能状态下演放校正用磁带。

2）依顺触按调整遥控器上的“继续”（CONTINUE）键和“HSWP调整”（HSWP ADJ）键。

→HSWP调整被自动执行。

此调整正确完毕时，液晶显示器(LCD)呈现蓝色，并自动地进行出盒工作。如果调整不完全时，LCD呈现红色，使摄影机自动停止。

1）更换EEPROM时

1）更换机械系统时

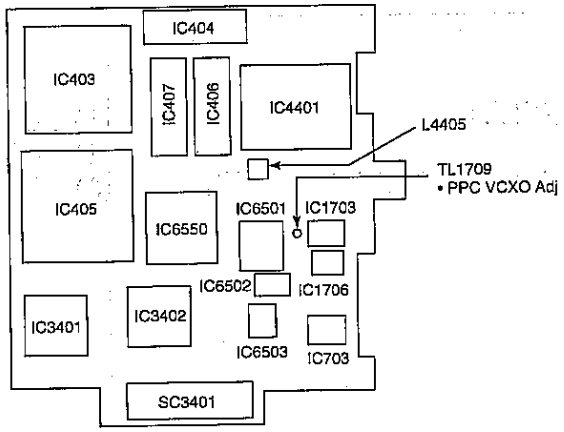
2）更换EEPROM时（在磁头放大器电路板中的IC303）

PPC电路的调整

1)更换主电路板时
2)更换IC4401或L4405时

1．PPC VCXO的调整

（电路板示意图A）



[步骤]

1）将摄像机部分与录像机部分相连，使摄像的视频信号能传入录像机部分。
2）设电源开关于摄像（CAMERA）位置处。
3）调节L4405，使TL1709的直流电压调为3.2±0.1V。

电磁转换电路系统的调整

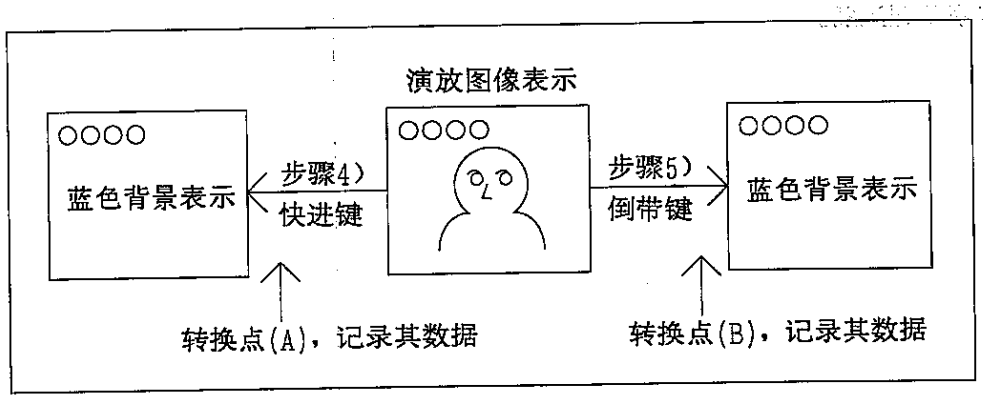
注：在电磁转换电路系统的调整中，拆除R3602的连接。

1．PLL VCO的调整

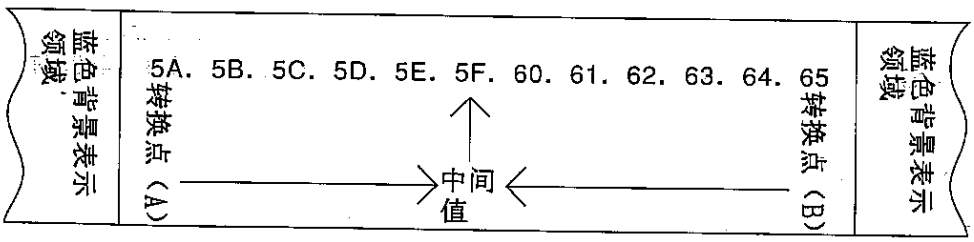
1）更换主电路板时
2）更换EEPROM时

[步骤]

1）演放校正用磁带（或其他录有内容的磁带）。
2）设定调整状态（V-ADJ）。
3）选定地址“2C”，读取其数据。
4）通过快进（FF）键，依次选择其数据，直至演放图像的画面变为蓝色背景表示为止。然后，再用倒带（REW）键反向读取其数据，找出由蓝色背景开始转变为演放图像表示瞬间的数据。同时，将该点的数据加以记录。
5）象上述步骤4）一样，继续用倒带（REW）键反向读取数据，让演放图像表示再回至蓝色背景表示， 然后，再用快进（FF）键正向读取数据，找出由演放图像开始转变为蓝色背景表示瞬间的数据。同时，将该点的数据加以记录。



6）计算上述两点（A和B）的数据，找出两点之间的中间值，再用快进(FF）键和倒带（REW）键选定其中间值。
例如：
两点（A和B）记录下来的数据分别为5A和65：



其中间值便为5F。

相位及均衡器的调整→（在录像机功能状态下实施）

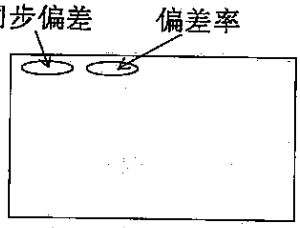
1）装入有内容的录像磁带。

2）通过调整遥控器选定调试方式（TEST MODE ）0F，该项调整自动实施。
（即以下的调整步骤自动进行。）

倒放（VS-REW）
↓
演放（PB）
↓
相位和均衡器调整自动进行。
↓
判断
↓
可 → 蓝色LCD表现 → ↓ 磁带退出
不可 → 红色LCD表现

4）偏差率检查。
通过调整遥控器选定调试方式（TEST MODE）0C。

5）手调方法（视频调整状态）
作相位调整时，变动地址2B中的数据；作均衡器调整时，变动地址27中的数据，使偏差率调至最小即可。

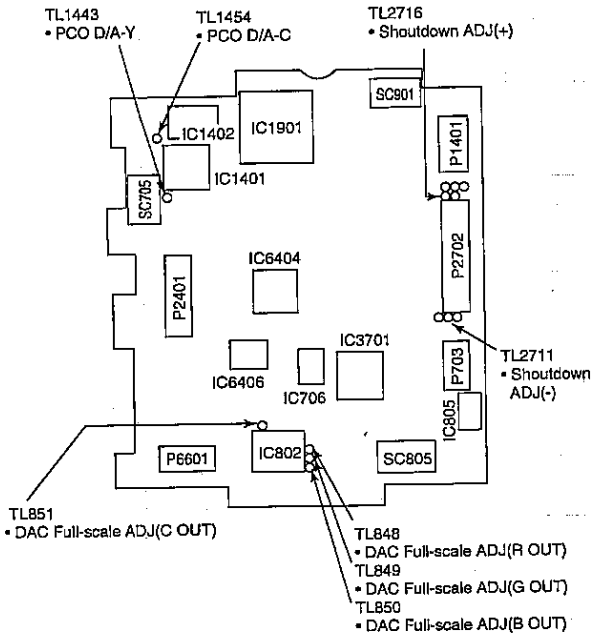


同步偏差不超过20
偏差率不超过200

1）更换机械系统时
2）更换主电路板时
3）更换EEPROM时

视频I/O电路系统的调整

（电路板示意图B）



1．I/O滤波器的调整

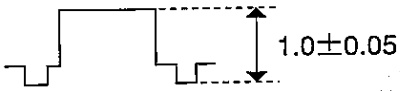
1）更换EEPROM时

[状态]
作彩条输入的EE状态。（录像机部分电源一侧）
[步骤]
1）设装置于调整状态（V-ADJ）。
2）选定地址“21”，读取其数据。
3）该地址中的数据定为“70”。

2．PCO D/A—Y的调整

1）更换EEPROM时

[状态]
作任意视频信号输入的EE状态
[测试点]
TL1443（与示波器连接）

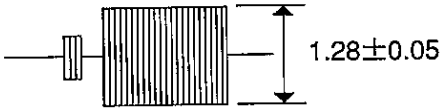


[步骤]
1）设装置于调整状态（V-ADJ）。
2）选定地址“22”，读取其数据。
（100％白色信号输出）
3）用快进（FF ）键或倒带（REW）键变动其数据，让TL1443的信号波形达到1.0±0.5Vp-p的要求。
☆数据必须在00～60之间的范围内选择。

3．PCO D/A—C的调整

1）更换EEPROM时

[状态]
无输入状态
[测试点]
TL1454

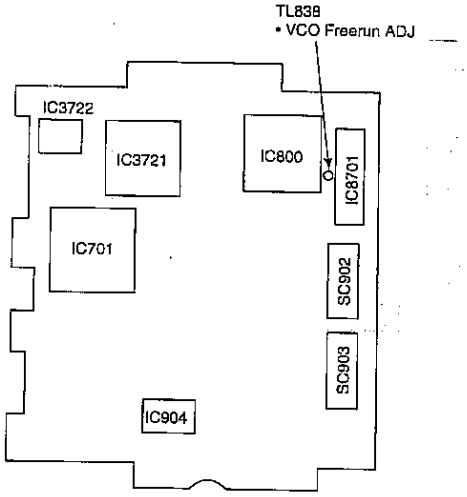


[步骤]
1）设装置于调整状态（V-ADJ）。
2）选定地址“23”，读取其数据。
3）用快进（FF）键或倒带（REW）键变动其数据，让TL1454的信号波形达到1.28±0.05Vp-p的要求。
☆数据必须在00～60之间的范围内选择。

LCD电路的调整

☆作此项调整时，背光开关必须设置在标准（NORMAL ）的位置上。

（电路板示意图D）



1．VCO自激调整

[状态]

录像机声像输入状态或蓝色背景图像状态

[地址]

录像机调整（VCR ADJ）32

[测试点]

TL838（HSY）

[调整规定值]

625KHz ± 100Hz

[步骤]

1）将录像机调整地址57从F7调到FB。

2）接计频器于TL838。调节TL838，使录像机调整地址32的数据达到规定值要求。

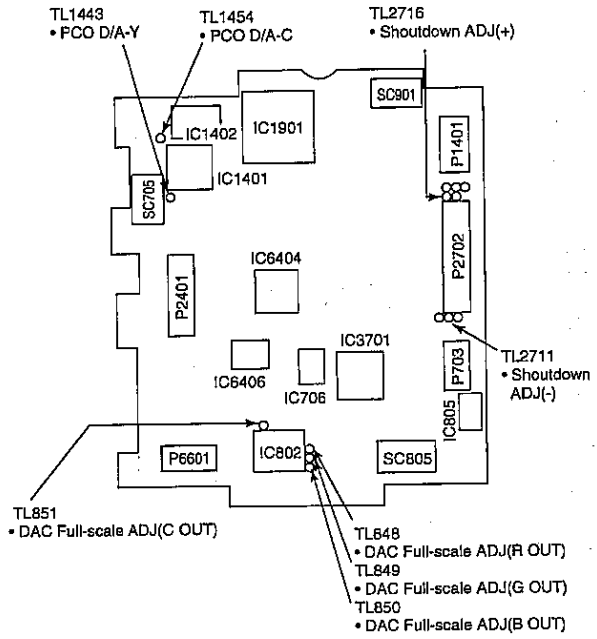
3）再将录像机调整地址57调到F7。

注：将地址57变为地址F8/F9时，LCD荧屏电源关断，但其中数据应发生变更。否则，原始设定的荧屏将不会再出现。这种情况发生后，地址及数据不能通过荧屏的表示得到检查和确认。

为解决此为难，将电源开发拨于摄像（CAMERA）位置处，用声像电缆线将录像部分的声像输出端与电视机相接，即通过电视机荧屏对地址及数据进行检查和确认。

1）更换IC706(EEPROM)时

（电路板示意图B）



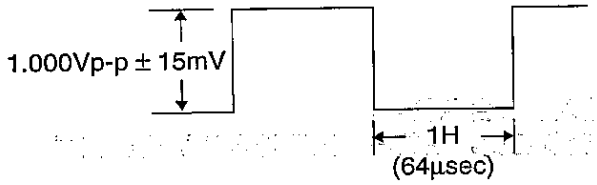
2．DAC全域调整

1）更换IC706(EEPROM)时
2）更换IC800时

[状态]
录像机声像输入状态

[地址]
录像机调整（VCR ADJ）3E（R/G）
录像机调整（VCR ADJ）3D（B/C）

[测试点]
TL848（R OUT）
TL849（G OUT）
TL850（B OUT）
TL851（C OUT）



[调整规定值]
1.000 Vp-p ± 15 mV

[步骤]
1）分别将录像机调整地址47 、49和64变为FE，7F和7F。（作此项变化之前，记住先记录下地址变化前的数据。）
2）通过录像机调整地址3E，将TL848和TL849的输出电压调至规定值的要求。再通过同步器，将其峰值电压也调至规定值的要求。于是，这两点测试点的电压值被平均为额定平均值。
3）通过录像机调整地址3D，将TL850和TL851的输出电压调至规定值的要求。再通过同步器，将其峰值电压也调至规定值的要求。（与上述步骤2）相同。）
4）将变动的地址数据返回至标准（NORMAL）设定。
注：将所有地址数据均返回其标准设定时，LCD荧屏留下白色表示。这时，关闭主电源开关，再重新打开，以恢复荧屏的表示。（锂电池必须取出。）

3．补偿偏压的调整

1）更换IC706(EEPROM)时
2）更换主电路板时
3）更换LCD时
4）更换IC800时

[状态]
录像机声像输入状态
[地址]
录像机调整
（VCR ADJ）33
[测试点]
液晶显示板显示部分

[调整规定值]
最小

[步骤]
1）向录像装置部分声像输入端输入40％白色信号。
2）设亮度计（TOPCON IM-3）于液晶显示板表面。（不允许外部光线进入。）
3）将亮度计所测光线波形的形状程度调制最小。

反应时间：0.6秒

或者，输入灰度图案信号，将黑色部分调制最黑。
[备注]
输入信号5分钟之后再进行调整。

4．黑白的调整

1）更换IC706(EEPROM)时
2）更换主电路板时
3）更换LCD时
4）更换IC800时

[状态]
录像机声像（VCR AV）输入状态
[地址]
录像机调整（VCR ADJ）30（R）
录像机调整（VCR ADJ）31（B）

[测试点]
液晶显示板显示部分

[调整规定值]
根据标准监控电视机而定

[步骤]
1）向录像装置部分声像输入端输入40％白色信号。
2）通过录像机调整地址30 和31调节色调，使其与标准监控电视机达至相同标准。

[备注]
输入信号5分钟之后再进行调整。

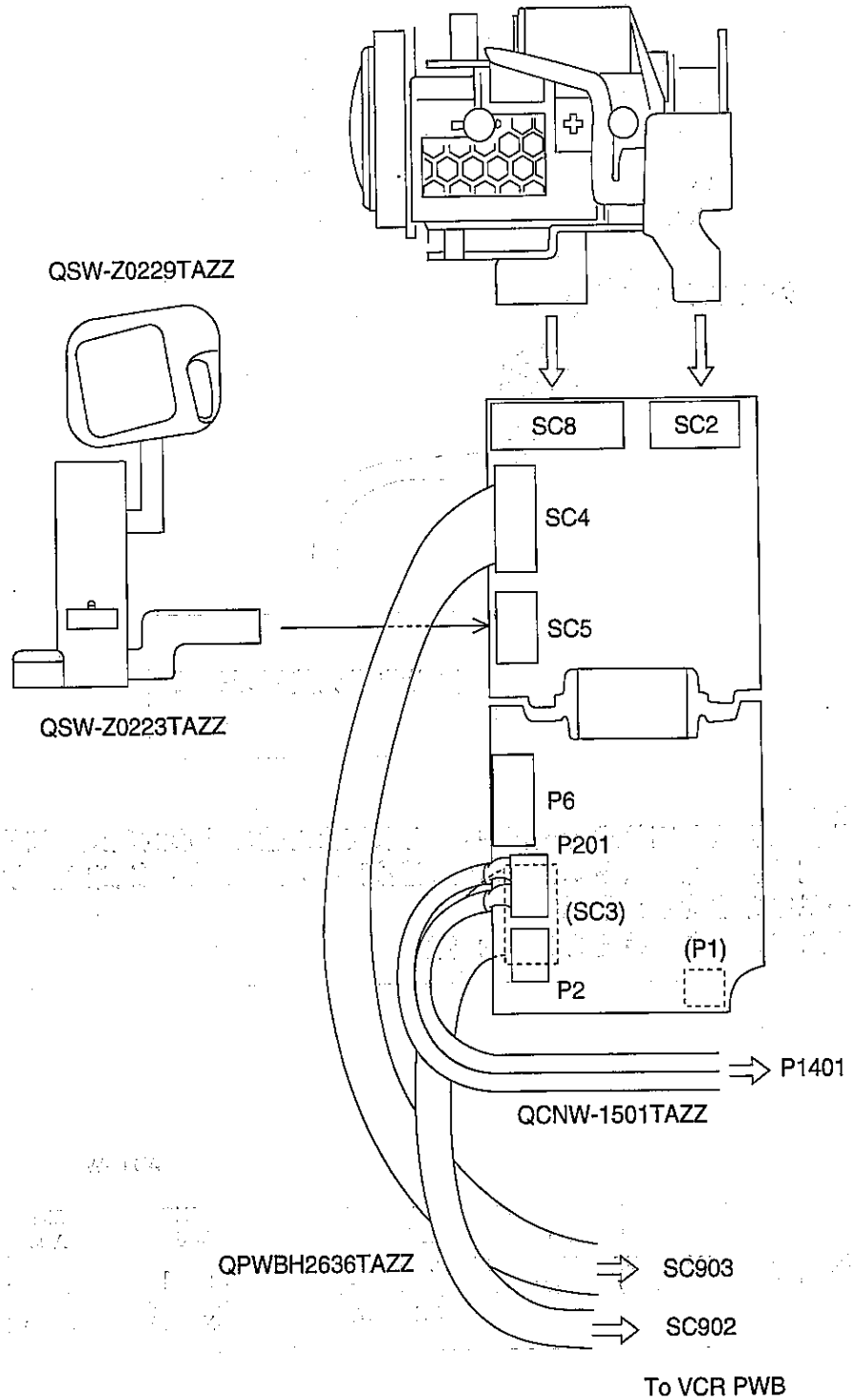
9-2. 摄影装置的调整

9-2-1. 摄影装置的保养

（1）用于摄影装置调整、保养的器材，测量仪器以及工具。

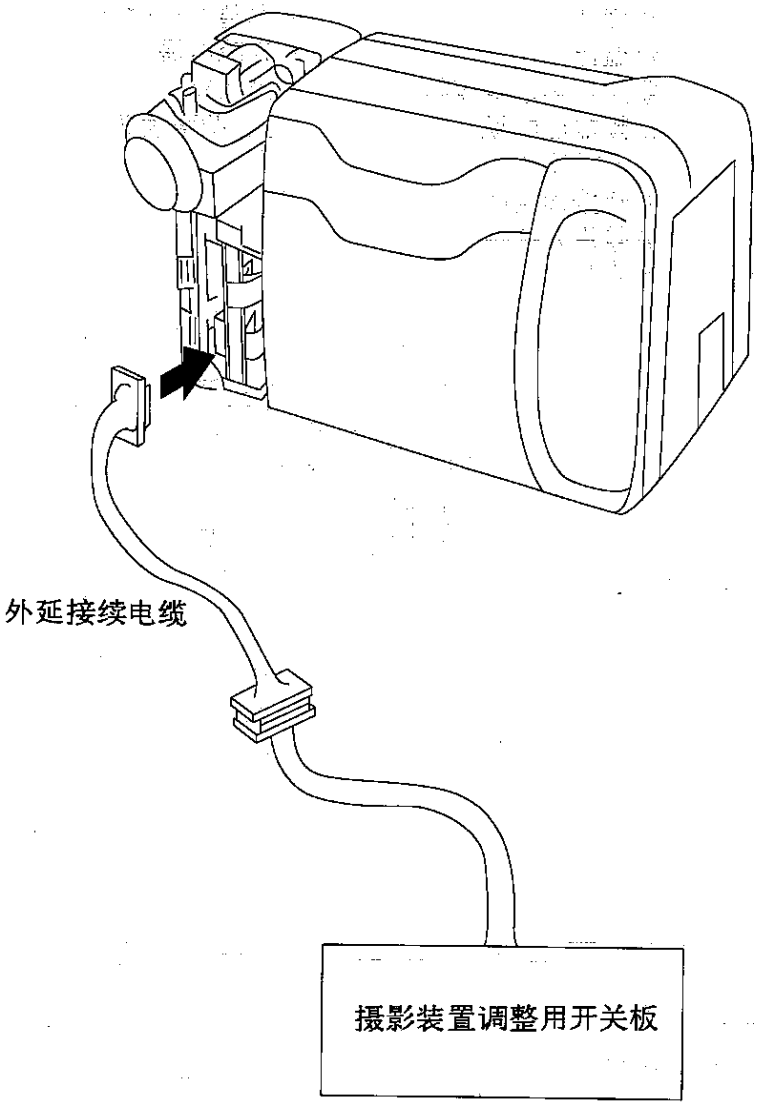
- 灰度图案
- 白色图案
- 彩条图案
- 示波器
- 数值式伏特计
- 矢量显示器
- 计频器
- 亮度计
- 色温计
- 监控用彩色电视机
- 视频输出电缆
- 交流转换器
- 外延接续电缆
- 调整用开关板
- 调整用遥控器
- 直流电源
- 照明箱
- INF调整镜头
- 卤化光（2只）

（2）摄影装置保养时的标准接续图



（3）摄影装置调整时的接续

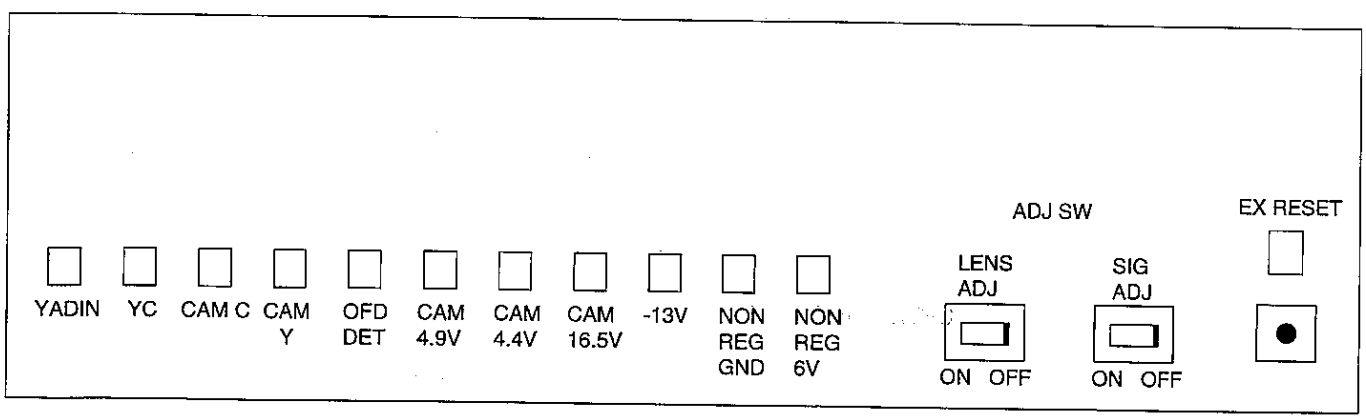
作摄影装置的调整时， 先取下摄影装置部分的前面板。然后，用外延接续电缆连接摄影装置印刷电路板上的连接器P6与调整用开关板。



（4）摄影装置调整用开关板

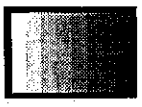
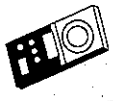
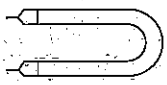
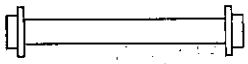
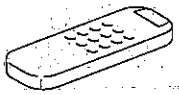
该开关板的作用是在摄影装置调整进行过程中， 用来切换对输出波形的测试点间的选择，以及切换对摄影信号系统调整和变焦镜头系统自动对焦调整间的选择。注意，各测试点的电压值不会是一个电压值，这一现象并非为不正常现象。

调整用开关板使用状态下，所有开关均为关闭的场合。



9-2-2. 摄影装置保养调整用工具和仪器

注："N"意指新品（NEW）。

序号	工具名称	零件编号	形状	备注
1	灰度图案 (390 x 520mm)	JiGCHART-1		
2	彩条图案 (240 x 320mm)	JiGCHART-4		
3	亮度计 （0～3000烛光）	JiGMETER-1		
4	色温计 （1600～400000° K）	JiGMETER-2		
5	色温交换滤光器 （3200→6800° K）	JiGHOYA-LB165		
6	印刷电路板连接器断接撬	JiGTH-SS10		
7	摄影装置调整用开关板 (QCNW-1220TAZZ)	QCNW-1220TAZZ		
8	外延接续电缆 （摄影装置调整用开关板←→P6）	QCNW-1368TAZZ	 26针（13针）20针	N
9	调整用遥控器	RRMCG0033TASA		

9-2-3. 摄影装置的调整

（1）调整前的准备及检查事项

1）点亮照明箱，并使其亮度均匀，色温为3200° K。

2）用一张干净又有色彩的试光图案。

3）检查电路系统有无故障。如有故障，用仪器找出发生故障的原因，修理或更换发生故障的元件。

（2）调整用遥控器（PRMCG0033TASA）

对本录像摄影机的摄影装置部分进行调整时，调整用遥控器（PRMCG0033TASA）可提供很多方便。例如，通过微型处理器向EEPROM（镜头装置上的ROM）的指定地址中输入必要的数据等。

1）摄影装置的调整

先触按“继续”（CONTINUE ）键，再触按“摄影装置调整”（CAM ADJ）键。

LCD荧屏上便显示出

CAM ADJ

□□□□

于是摄影装置部分进入调整状态。

2）表示的说明

CAM □□□□（地址）　ADJ □□□□（数据）　（表示摄影装置部分进入调整状态）

☆地址范围为0000～02FF。

☆数据也为一字节数据（最后两位有效）和二字节数据（最后三位有效）。

3）遥控器上的键钮说明

快进（FF）键：顺序增大地址或数据的数值。

倒带（REW）键：顺序减少地址或数据的数值。

演放（PLAY）键：指定地址或读取数据。

该键还可以用来选定数据（即写入EEPROM之中）。

4）操作方法

→ FF或REW键 → PLAY键 → FF或REW键 → PLAY 键 → STOP键

先选择、指定地址，再读取、选定数据。以后，周而复始、 循环操作。

5）结束调整的操作

触按“继续”(CONTINUE)键，“摄影装置部分调整”(CAM ADJ)的表示从荧屏上消失。

注：结束调整状态时， 应确认此时既不能是自动对焦功能调整状态，也不能是摄影信号系统调整状态。（两状态的情况见下节所述。）

• 摄影装置部分的调整状态

摄影装置部分的调整状态有二：自动对焦调整状态和摄影信号系统调整状态。

（3）自动对焦功能调整状态

• 摄影装置的镜头为微型电脑控制的变焦镜头。

此外，该镜头具有电脑控制的自动对焦功能。自动对焦功能的原理是由自动对焦电路通过图像处理技术、高频连动镜头焦距，找出图像最大信号位置。为此，要通过形状较小的镜头获得较大的力，采用了通过主镜头（背镜）前后移头带动焦距移动的内部对焦系统的设计。该内部对焦系统是全焦距式变焦系统，即其变焦范围为10mm至无穷大。然而，必须注意的是摄远镜头最近距离可以定为1.5mm，比1.5mm更小的焦距则无法胜任对焦。因此，本摄影装置的变焦镜头被设计得能自动进入广角范围，直至所拍对象进入焦距对准的位置为止。

本摄影装置的自动对焦系统的功能由下述的几个重要因素组成：

- 主镜头位置检测数据
- 可变光圈位置检测数据
- 变焦镜头位置检测数据

这些检测数据由微电脑经各镜头处理，并写入EEPROM之中加以记忆。

因此，在下述情况发生时，必须进行自动对焦功能调整：

- 更换镜头时
- 更换CCD时
- 更换EEPROM（位于镜头装置之上）时

1）进入自动对焦功能调整状态　设地址“02FE”的数据为“□□01”。

⇩

荧屏一时渐转白色，摄影装置部分进入自动对焦调整状态。

⇩

☆进入此调整状态后，按照下述的（5）摄影装置部分的调整步骤进行调整。

☆在此调整状态下， 镜头不能有自动对焦动作。

2）返回正常操作状态

设地址“02FE”的数据为“□□FF”。

⇩

荧屏一时渐转白色，摄影装置部分返回至正常操作状态。

触按“继续”（CONTINUE）键，“摄影装置部分的调整”（CAM ADJ）的表示从荧屏上消失， 摄影装置恢复正常操作状态。

（4）摄影信号系统的调整状态

摄影信号系统的调整状态下， 自动白色平衡功能无效。而且，白色平衡方式被限定于室内（INDOORS）方式， 对焦方式也被限定于手动对焦方式。

1）进入摄影信号系统的调整状态

设地址“02FE”的数据为“□□00”。

⇩

摄影装置部分进入摄影信号系统的调整状态。

☆进入此调整状态后， 按照下述的(5)摄影装置部分的调整步骤进行调整。

2）返回正常操作状态

设地址“02FE”的数据为“□□FF ”。

⇩

摄影装置部分返回至正常操作状态。

⇩

触按“继续”（CONTINUE）键，“摄影装置部分的调整”（CAM ADJ）的表示从荧屏上消失，摄影装置部分恢复正常操作状态。

（5）摄影装置部分的调整

1. 自动对焦功能调整
↓
2. 基本光圈调整
↓
3. 黑色平衡的调整
↓
4. 同步信号电平的调整
↓
5. 色同步电平的调整
↓
6. 光圈AE的调整
↓
7. 白色平衡粗调
↓
8. 彩色增益粗调
↓
9. 白色平衡的调整
↓
10. 彩色增益的调整
↓
11. 白色平衡的自動调整

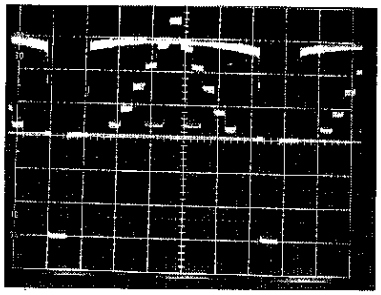
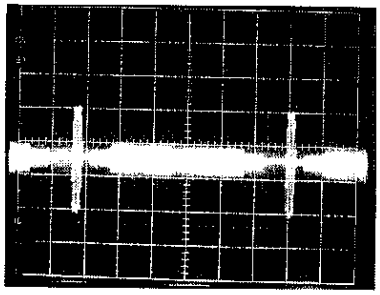
☆上述的“1. 自动对焦功能调整”和“2.基本光圈调整”二项应在自动对焦功能调整过程中完成，而上述的其他各项调整则应在摄影信号系统调整过程中完成。

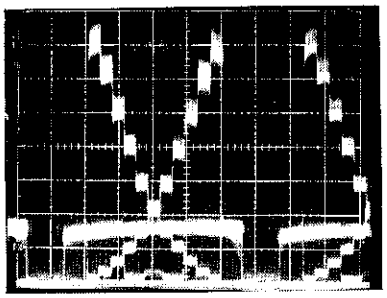
9-2-4. 调整过程

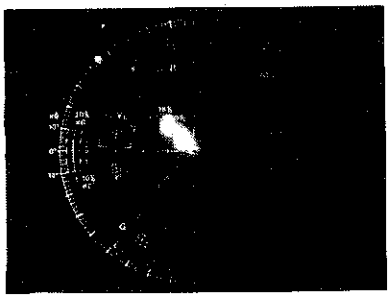
<table>
<tr><th>调整项目</th><th>调整方法</th></tr>
<tr><td>（1）自动对焦功能调整</td><td>进入自动对焦功能调整状态，向地址“02FF”中依次写入下示数据。于是，此项调整便自动开始实施，实施的内容如下表所列。表中每项内容的调整顺利完成时，指定地址中便会被写入数据“FF”。各项内容的调整结束后，先检查其是否正确完成，然后再转入下一项的调整。
<table><tr><th>地址</th><th>数据</th><th>调整内容</th></tr><tr><td>02FF</td><td>000C
0006
0008</td><td>线形性的调整
广角（WIDE）对焦∞位置的调整
远距（TELE）对焦∞位置的调整</td></tr></table>注1：∞位置的调整应确实地选定对象，清楚地取景进行。用作此项调整的对象，轮廓应十分清晰。特别是远距（TELE）对焦∞位置的调整时，如没确实的物体选定，调整便不能正确完成。
广角对焦∞位置的调整：大于3m
远距对焦∞位置的调整：大于50m
注2：作∞位置调整时，景深是保证精度的一个重要因素。如果景深取得过深，焦距便会过于稳固，势必引起∞位置调整发生错误。因此，调制时，景深应该放浅（即光圈开大）为宜。

在下述情况下，由于高速快门的使用，光圈可以松开。
1.返回正常操作状态
2.在正常操作状态下，连续按高速快门直至光圈松开为止。
（见“使用说明书”中所述。）
3.用调整用遥控器让荧屏上出现“CAM ADJ”的表示。
4.进入自动对焦功能调整状态。
5. 作∞位置调整。
6. 调整结束后， 将高速快门状态返回到正常操作状态。</td></tr>
<tr><td>（2）基本光圈的调整</td><td>此项调整是为安装于镜头光圈计中的张孔机构的工作点进行调整。设摄影装置部分于自动对焦功能调整状态，并于地址“02FF”中依次写入下示数据。于是，此项调整便自动开始实施，实施内容如下表所列。表中每项内容的调整顺利结束后，指定地址中便会被写入“00FF”。
<table><tr><th>地址</th><th>数据</th><th>调整内容</th></tr><tr><td>02FF</td><td>0009
000A
000B</td><td>霍尔补偿的调整
光圈补偿的调整
光圈闭合的调整</td></tr></table></td></tr>
</table>

<table>
<tr><th>调整项目</th><th>调整方法</th></tr>
<tr><td>（3）黑色平衡的调整</td><td>1）调整之前，先于地址“01E4” ～“01E9” 之中均写入“□□FF”的数据（只有最后两位有效）。
2）在摄影信号系统调整(地址“02FE”中的数据为“□□00”)过程中，在地址“02FF”中写入数据“□□01”。于是，此项调整便自动开始进行，调整顺利结束后，上述地址中又被自动写入数据“00FF”。
3）计算数据。
<table><tr><th>地址</th><th>处理</th></tr><tr><td>01E4</td><td>写入数据-03（减法）</td></tr><tr><td>01E5</td><td>写入数据-03（减法）</td></tr><tr><td>01E6</td><td>写入数据-08（减法）</td></tr><tr><td>01E7</td><td>写入数据-02（减法）</td></tr><tr><td>01E8</td><td>写入数据-05（减法）</td></tr><tr><td>01E9</td><td>写入数据-09（减法）</td></tr></table></td></tr>
<tr><td>（4）同步信号电平的调整
测量端：CAM Y
地址：“01F8” YGAIN_CAM
测量仪器：示波器（水平循环）
对象物：任意
可调数据范围：“0000” ～“00FE”</td><td>1）用镜头盖盖住镜头，观察示波器上视频输出的波形。通过改写地址“01F8”中的数据，将同步信号电平调整为300±10mVp-p。

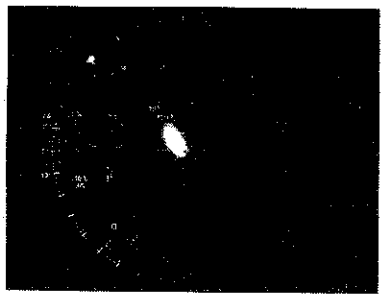
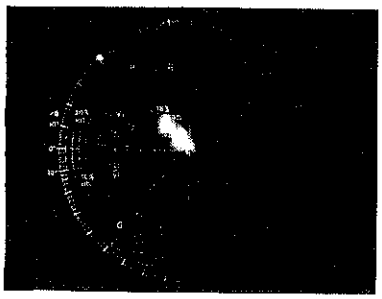
注：改写数据时荧屏会发生变形，这是正常的，并非故障。
  </td></tr>
<tr><td>（5）色同步电平的调整
测量端：CAM C
地址：“01F9” CGAIN_CAM
测量仪器：示波器（水平循环）
对象物：任意
可调数据范围：“0000” ～“00FE”</td><td>1）观察示波器上视频输出的波形。通过改写地址“01F9” 中的数据，将色同步电平调整为300±20mVp-p。
  </td></tr>
</table>

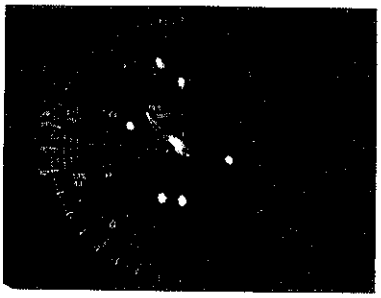
<table>
<tr><th>调整项目</th><th>调整方法</th></tr>
<tr><td>（6）光圈AE的调整
测量端：Y-ADIN
地址：“02FD” AE_CVT
测量仪器：示波器（水平循环）
对象物：灰度图案
可调数据范围：“0000”～“00FE”</td><td>1）设摄影装置于标准灰度级快拍状态，观察示波器上视频输出的波形。通过改写地址“02FD”中的数据，将亮度信号电平调整为700±20mVp-p。
  </td></tr>
<tr><td>（7）白色平衡粗调
测量端：EE OUT
地址：“0010” INDOOR_R
“0012” INDOOR_B
测量仪器：矢量显示器
对象物：白色图案
可调数据范围：“0000”～“03FF”</td><td>1）拍摄白色图案，调节变焦位置，使亮度信号电平尽可能达至平坦。
2）修正地址0010和0012中的数据，使矢量显示器上出现的红色亮度（R-Y）轴和蓝色亮度（B-Y）轴上亮点的色同步率分别为10％（VL-DC1E）、20％（VL-DC1H/S）和-10％(VL-DC1E)、-20％（VL-DC1H/E）。
VL-DC1E

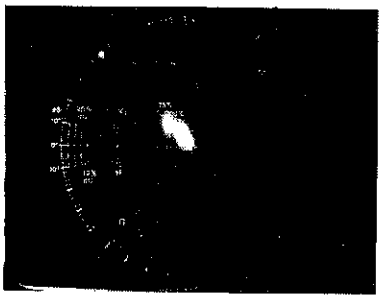
VL-DC1H/S
  </td></tr>
<tr><td>（8）彩色增益粗调
测量端：EE OUT
地址：“0106” CGIN RYG
“0104” CGIN RYG
“0102” CMAT RYG
“0100” CMAT BYG
测量仪器：矢量显示器
对象物：彩条图案
可调数据范围：“0000”～“007F”</td><td>1）拍摄彩条图案，调节拍摄角度，使白色电平达至600mV。观察矢量显示器上的波形。再通过改写地址0106 、 0104 、0100和0102中的数据，使红色和蓝色亮点达到下表所示的规定要求。（色同步增益在矢量显示器上沿B-Y轴必须设定为75％的幅值。）
VL-DC1E

VL-DC1H/S

<table><tr><th></th><th>VL-DC1E</th><th>VL-DC1H/S</th><th>调整地址</th></tr><tr><td>红色幅值：
蓝色幅值：
红色相位：
蓝色相位：</td><td>1.75±0.1(色同步率)
1.05±0.1(色同步率)
104°±2°
345°±2°</td><td>1.85±0.1(色同步率)
1.00±0.1(色同步率)
105°±2°
347°±2°</td><td>“0106”
“0104”
“0100”
“0102”</td></tr></table></td></tr>
</table>

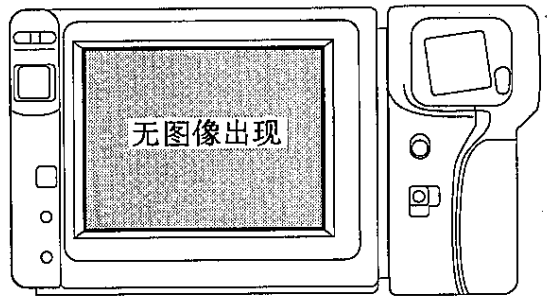
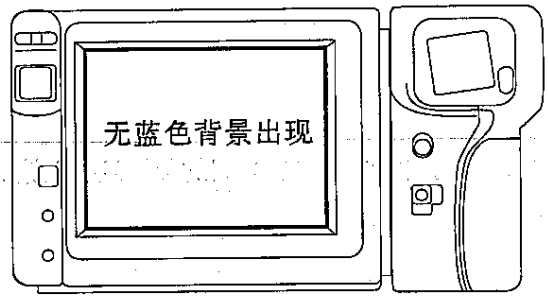
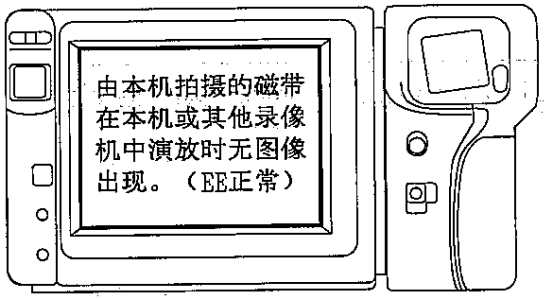
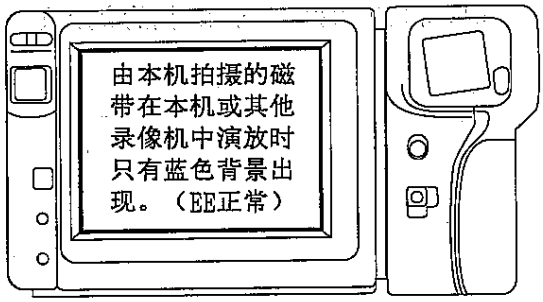
<table>
<tr><th>调整项目</th><th>调整方法</th></tr>
<tr><td>（9）白色平衡的调整
测量端：EE OUT
地址：“0010” INDOOR_R
“0012” INDOOR_B
测量仪器：矢量显示器
对象物：灰色图案
可调数据范围：“0000” ~ “03FF”</td><td>1）重复白色平衡的调整。
VL-DC1E
 
VL-DC1H/S
 
<table><tr><th></th><th>VL-DC1E</th><th>VL-DC1H/S</th></tr><tr><td>R-Y</td><td>10 ± 5 %（色同步率）</td><td>20 ± 0.1（色同步率）</td></tr><tr><td>B-Y</td><td>- 10 ± 5 %（色同步率）</td><td>- 20 ± 0.1（色同步率）</td></tr></table></td></tr>
<tr><td>（10）彩色增益的调整
测量端：EE OUT
地址：“0106” CGIN RYG
“0104” CGIN BYG
“0102” CMAT RYG
“0100” CMAT BYG
测量仪器：矢量显示器
对象物：波形监视器上的彩条图案
可调数据范围：“0000” ~ “003F”</td><td>1）重复彩色增益的调整。
VL-DC1E

VL-DC1H/S
 
<table><tr><th></th><th>VL-DC1E</th><th>VL-DC1H/S</th></tr><tr><td>红色幅值：</td><td>1.75 ± 0.1（色同步率）</td><td>1.85 ± 0.1（色同步率）</td></tr><tr><td>蓝色幅值：</td><td>1.05 ± 0.1（色同步率）</td><td>1.00 ± 0.1（色同步率）</td></tr><tr><td>红色相位：</td><td>104° ± 2°</td><td>105° ± 2°</td></tr><tr><td>蓝色相位：</td><td>345° ± 2°</td><td>347° ± 2°</td></tr></table></td></tr>
<tr><td>（11）白色平衡的自动调整
测量端：EE OUT
地址：“0016” OUTDOOR R
“0018” OUTDOOR B
测量仪器：矢量显示器
对象物：灰色图案
可调数据范围：“0000” ~ “03FF”</td><td>1）在镜头上套上色温滤光片（LB165）。
2）拍摄白色图案，调节变焦位置， 使亮度电平尽可能地平坦。
3）修改地址0016和0018中的数据，以获得室外白色平衡调整的准备状态。
<table><tr><th></th><th>VL-DC1E</th><th>VL-DC1H/S</th></tr><tr><td>R-Y</td><td>10 ± 5 %（色同步率）</td><td>20 ± 5（色同步率）</td></tr><tr><td>B-Y</td><td>- 10 ± 5 %（色同步率）</td><td>- 15 ± 5（色同步率）</td></tr></table>
VL-DC1E

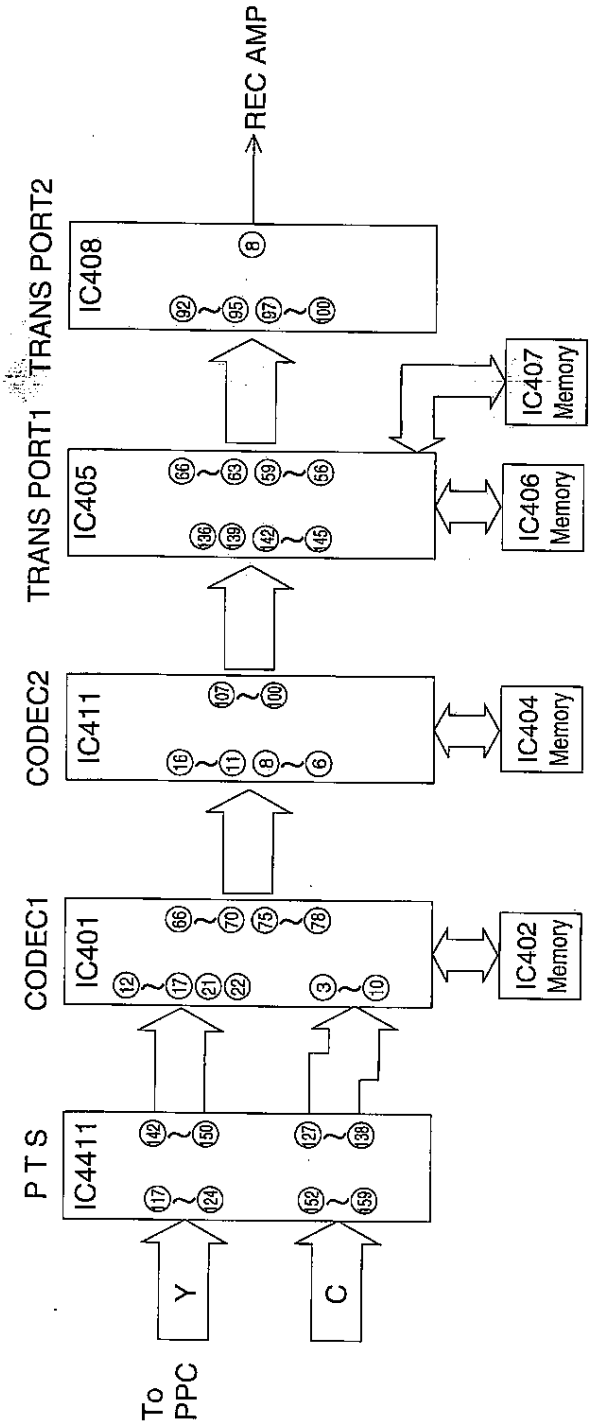
VL-DC1H/S
  </td></tr>
</table>

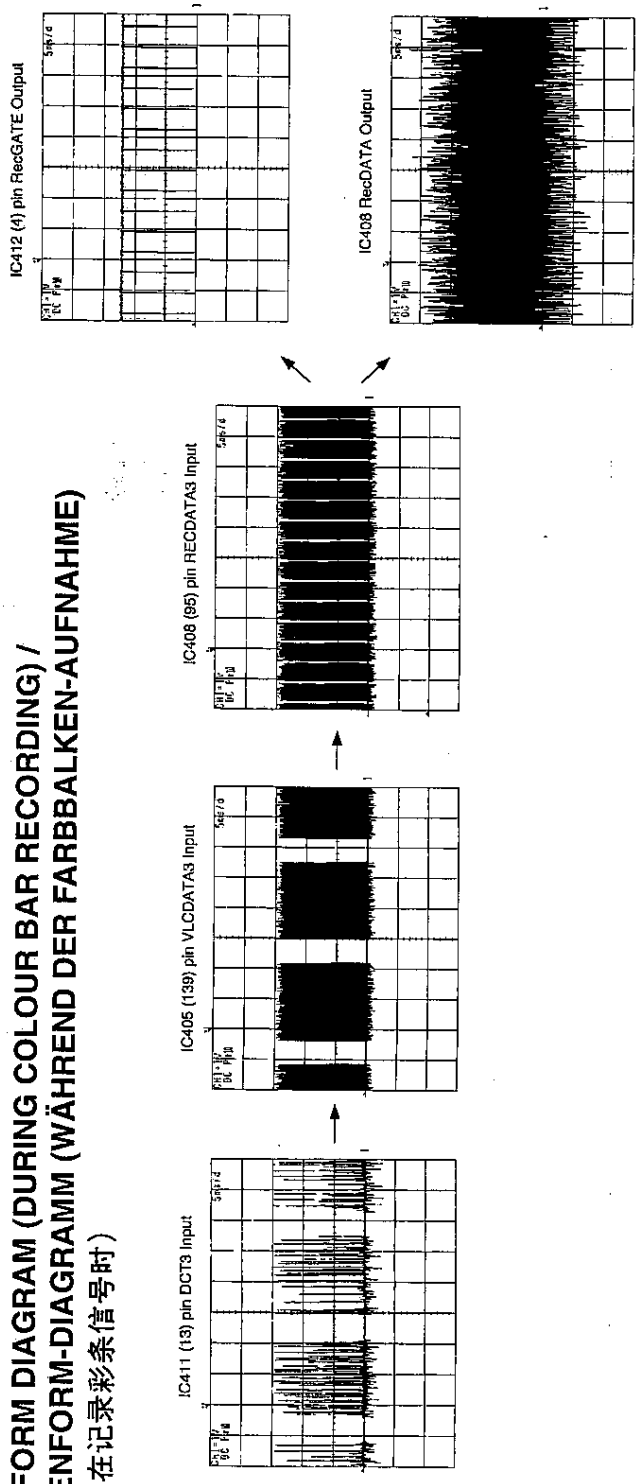
上述调整结束后，设摄影装置回至标准工作状态。(即在地址“02FE”中写入数据“□□FF”。)

10. 问题的处理措施（由于是数值式处理，所以发生问题与VHS或8mm磁带家用录像机不同）

发生问题	需检查的主要电路
摄影装置部分（EE状态） 	• CCD • 摄影装置电路（CDS、ADS、DSP） • PCI（IC4401、IC4402） • PTC （IC441） • LCD_DSP（IC800） • Gui微电脑处理器（IC3721）
录像装置部分（EE状态） 	• PTC（IC4411） • 机构控制器（IC702） • LCD_DSP（IC800） • Gui微电脑处理器（IC3721）
摄影装置部分（记录状态） 录像装置部分（演放状态） 	• PTC（IC4411） • CODEC 1和CODEC 2（IC401、IC411） • 传送电路1（IC405）
摄影装置部分（记录状态） 录像装置部分（演放状态） 	• 传送电路2（IC408） • PLL（IC3401） • ATF（IC3402） • 摄影机放大器（IC301） ☆视频磁头不洁或故障。

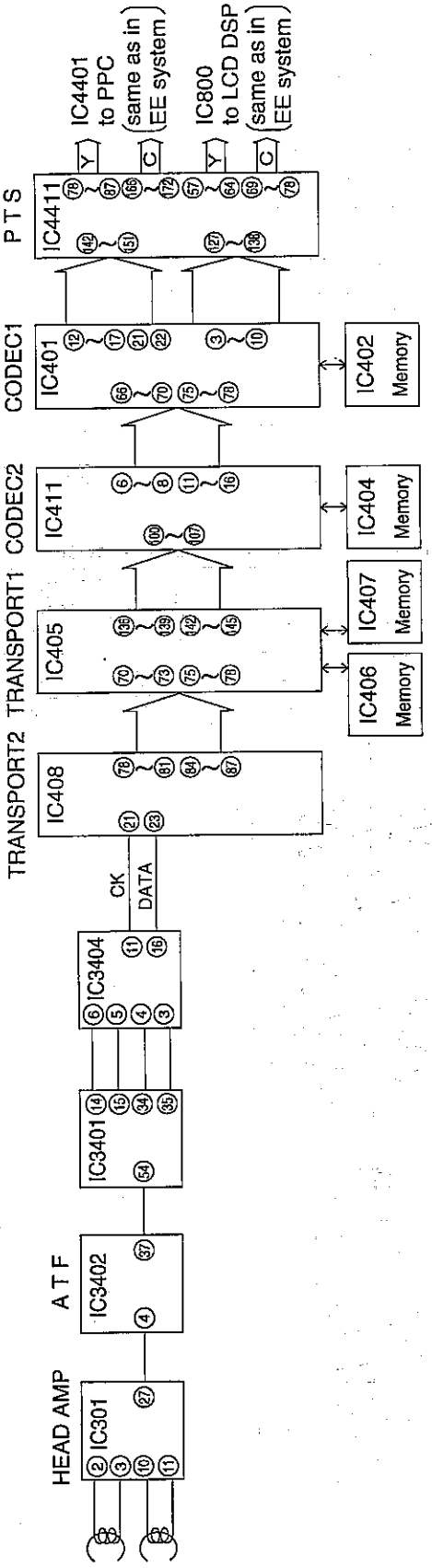
11-2. FLOW IN REC MODE (VIDEO) / FLUSSBILD IM REC-MODUS (VIDEO)
记录方式视频信号流程图



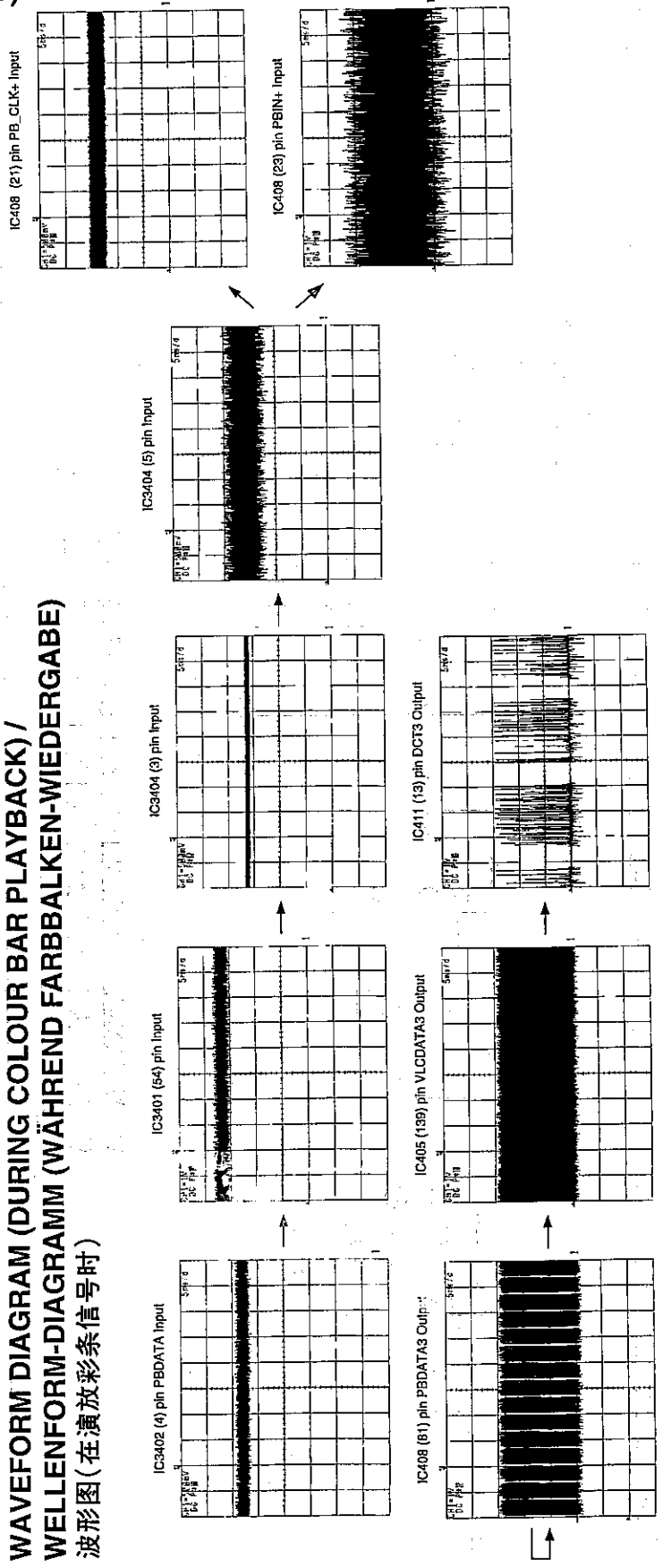

IC412 (4) pin RecGATE Output
IC408 RecDATA Output
IC408 (95) pin RECDATA3 Input
IC405 (139) pin VLCDATA3 Input
IC411 (13) pin DCT3 Input

WAVEFORM DIAGRAM (DURING COLOUR BAR RECORDING) / WELLENFORM-DIAGRAMM (WÄHREND DER FARBBALKEN-AUFNAHME)
波形图(在记录彩条信号时)

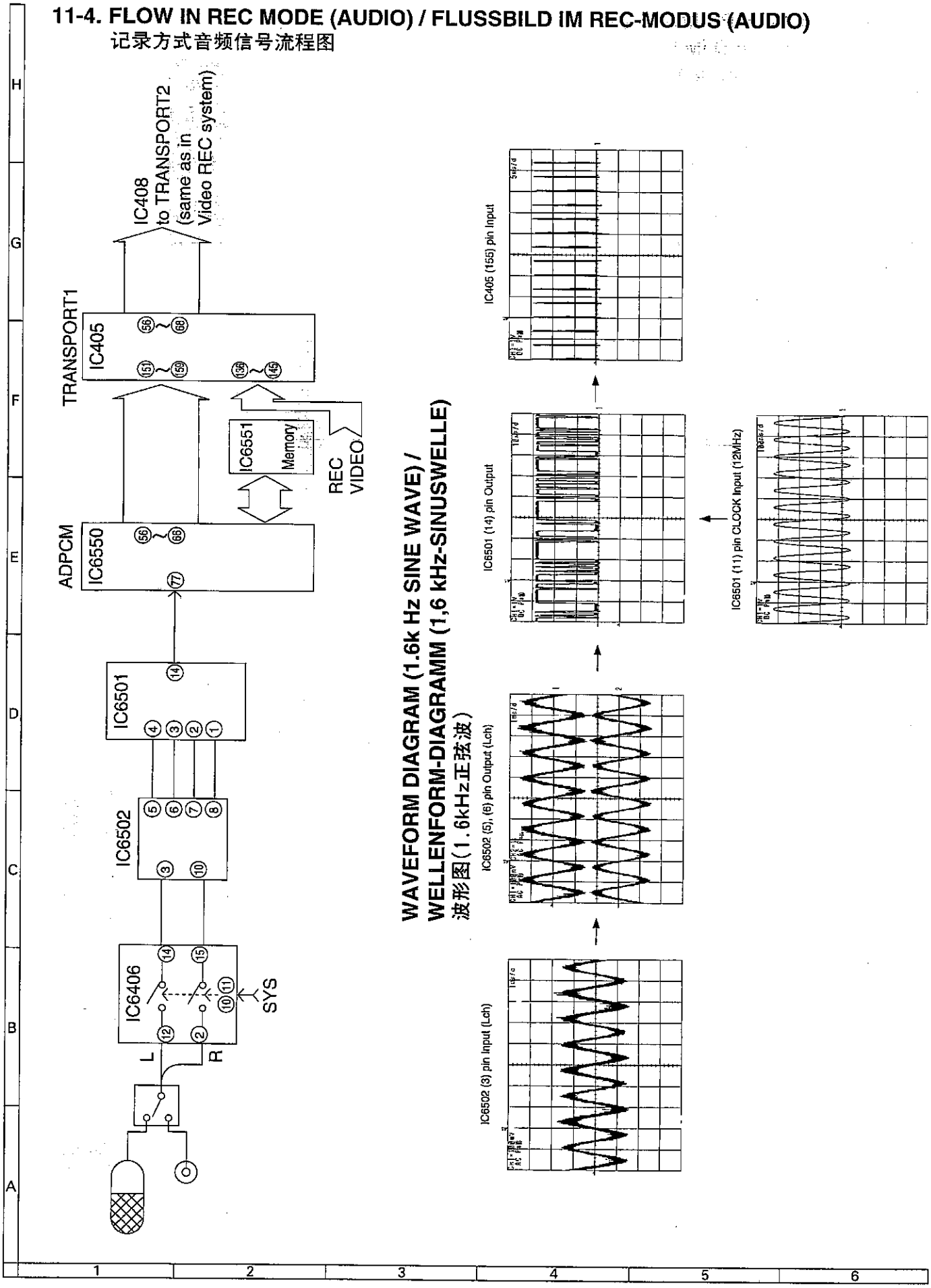
11-3. FLOW IN PB MODE (VIDEO) / FLUSSBILD IM PB-MODUS (VIDEO)
演放方式视频信号流程图



WAVEFORM DIAGRAM (DURING COLOUR BAR PLAYBACK) / WELLENFORM-DIAGRAMM (WÄHREND FARBBALKEN-WIEDERGABE)
波形图(在演放彩条信号时)

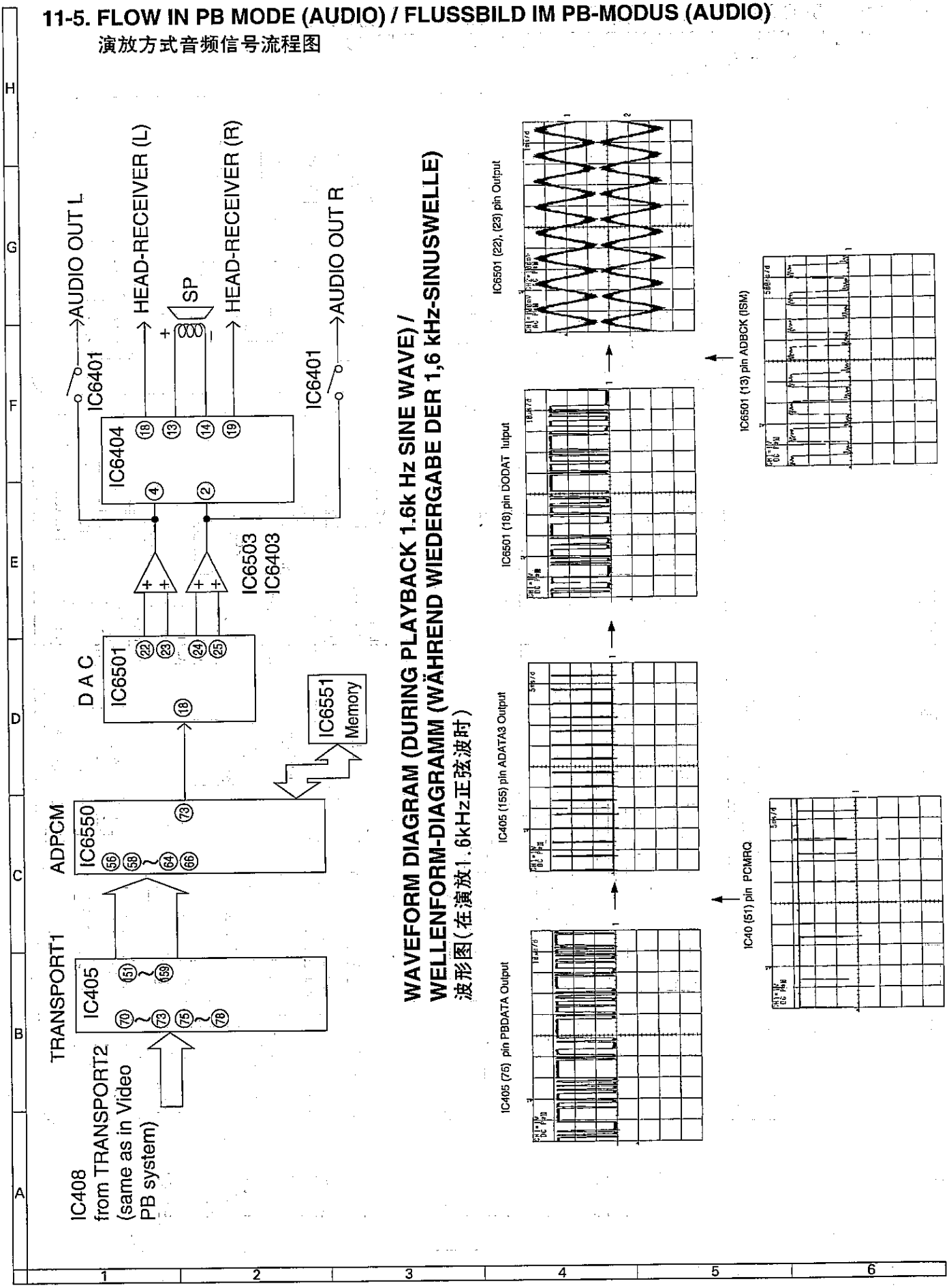

IC408 (21) pin PB_CLK+ Input
IC408 (23) pin PBIN+ Input
IC3404 (5) pin Input
IC3404 (3) pin Input
IC411 (13) pin DCT3 Output
IC3401 (54) pin Input
IC405 (139) pin VLCDATA3 Output
IC3402 (4) pin PBDATA Input
IC408 (81) pin PBDATA3 Output

11-4. FLOW IN REC MODE (AUDIO) / FLUSSBILD IM REC-MODUS (AUDIO)
记录方式音频信号流程图



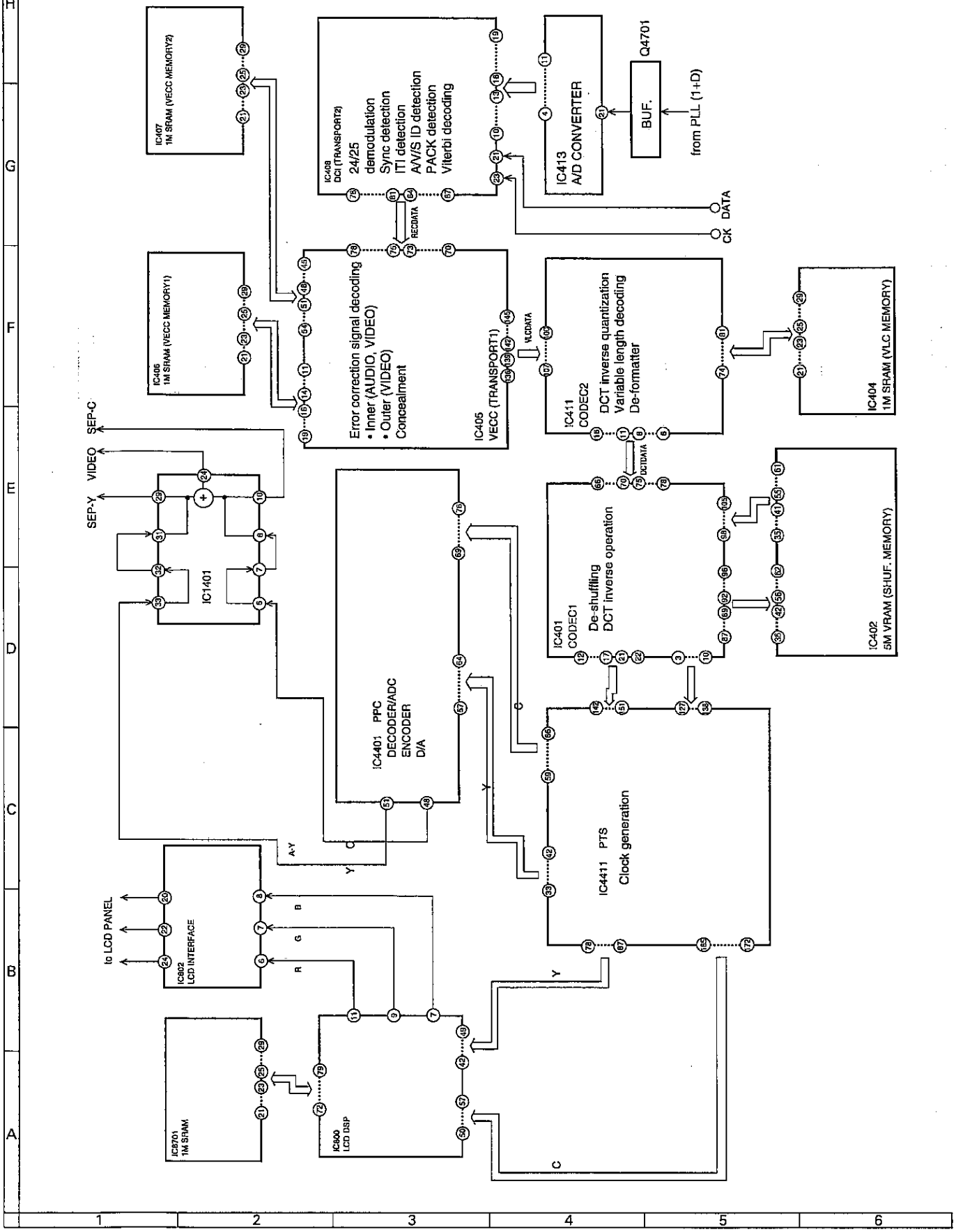
11-5. FLOW IN PB MODE (AUDIO) / FLUSSBILD IM PB-MODUS (AUDIO)

演放方式音频信号流程图



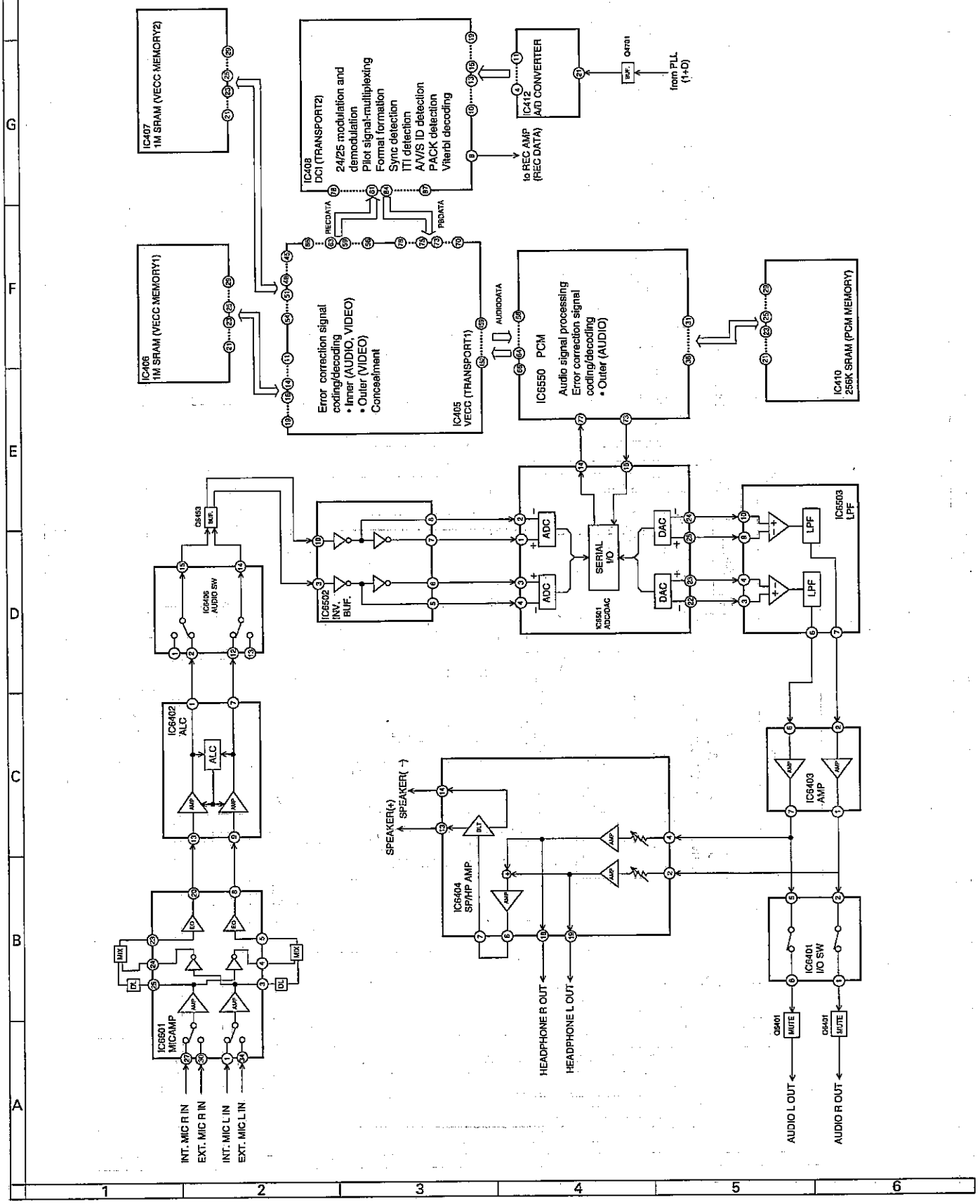
12-3. VCR SECTION BLOCK DIAGRAM (during PLAYBACK) / BLOCKDIAGRAMM DES VCR-BEREICHS (WÄHREND DER WIEDERGABE)

录像机部分方框图(演放时)

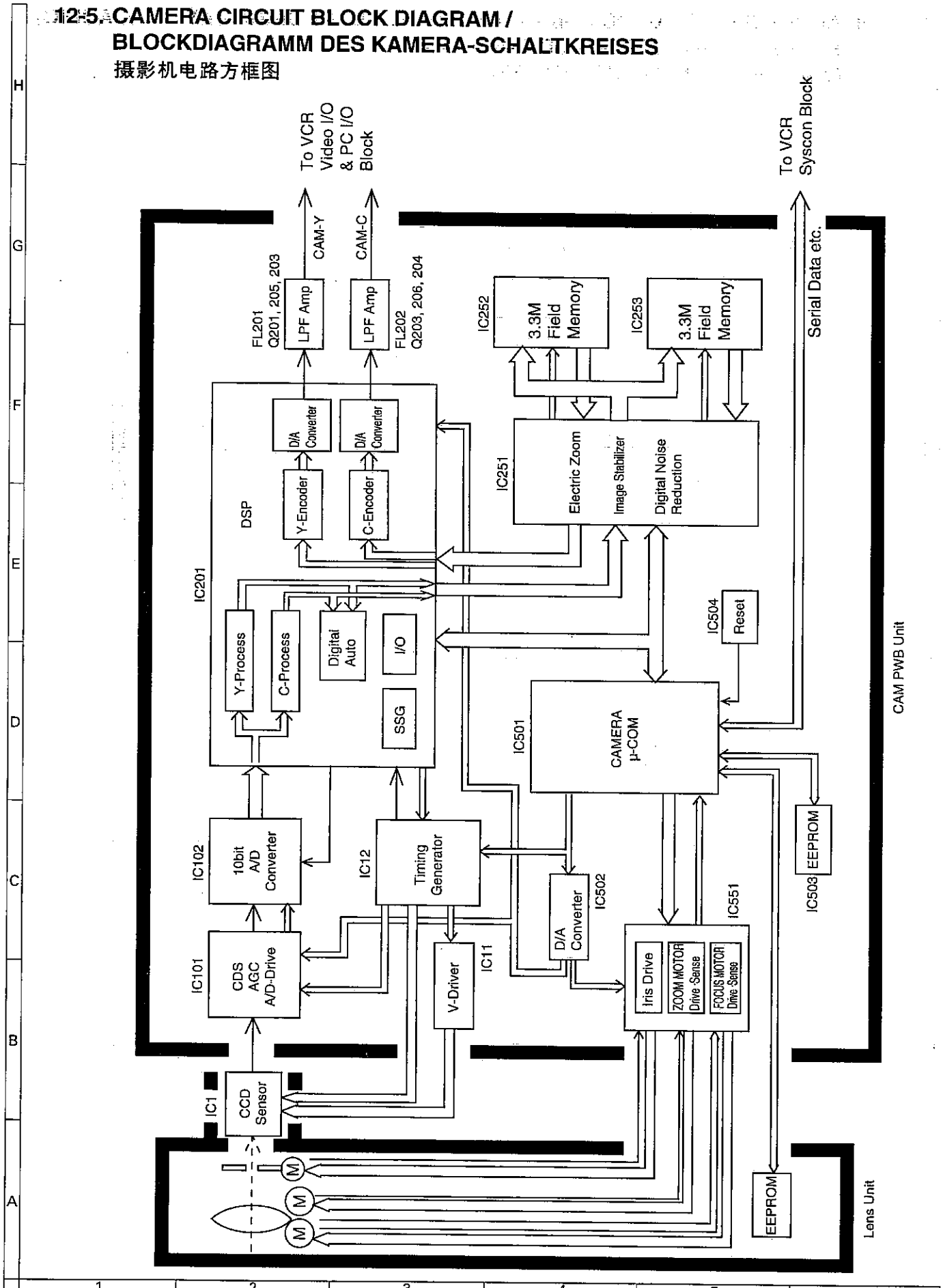


12-4. AUDIO SECTION BLOCK DIAGRAM (during RECORDING/PLAYBACK AUDIO) / BLOCKDIAGRAMM DES AUDIO-BEREICHS (WÄHREND AUDIO-AUFNAHME/WIEDERGABE)

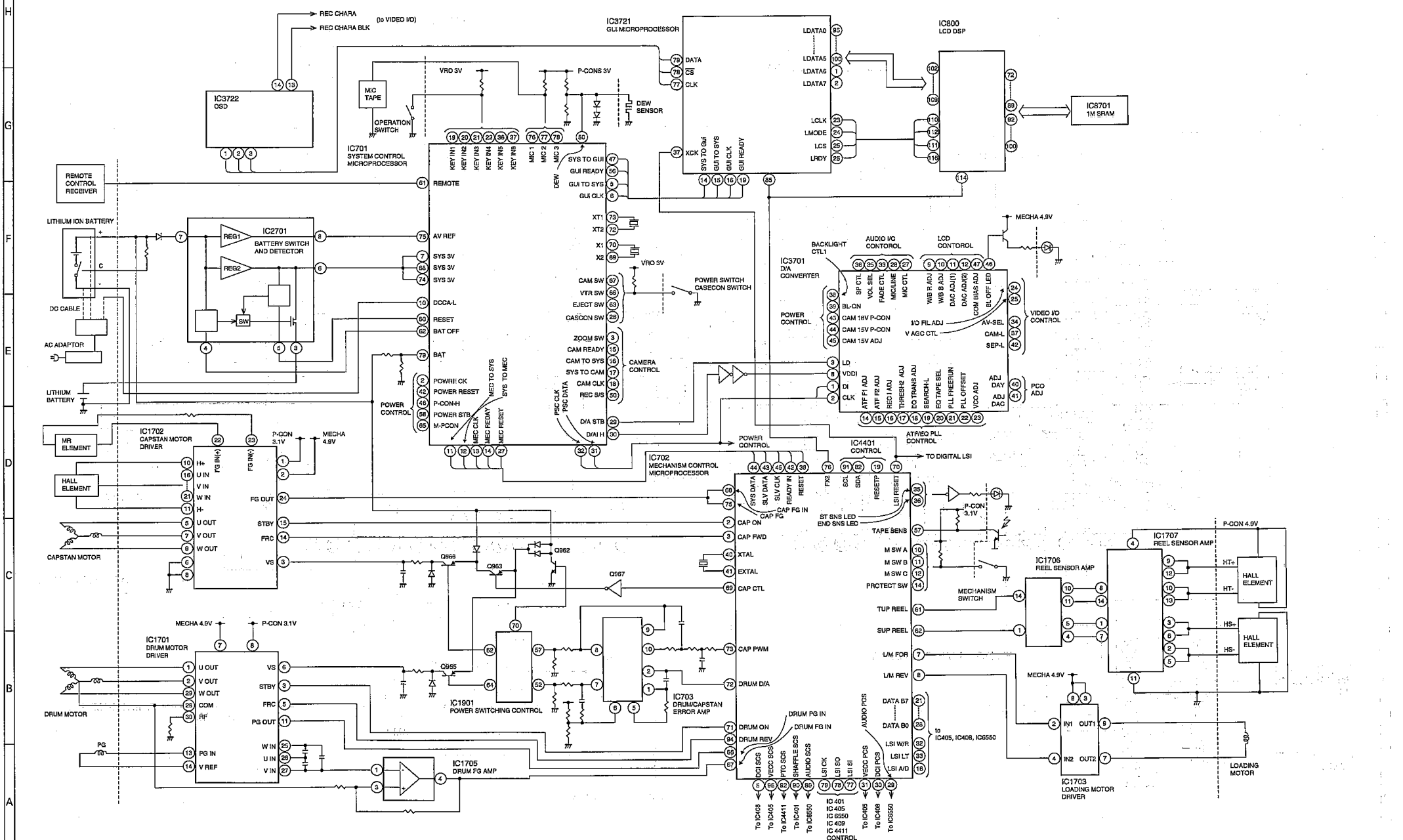
音响装置部分方框图(记录/演放音频信号时)



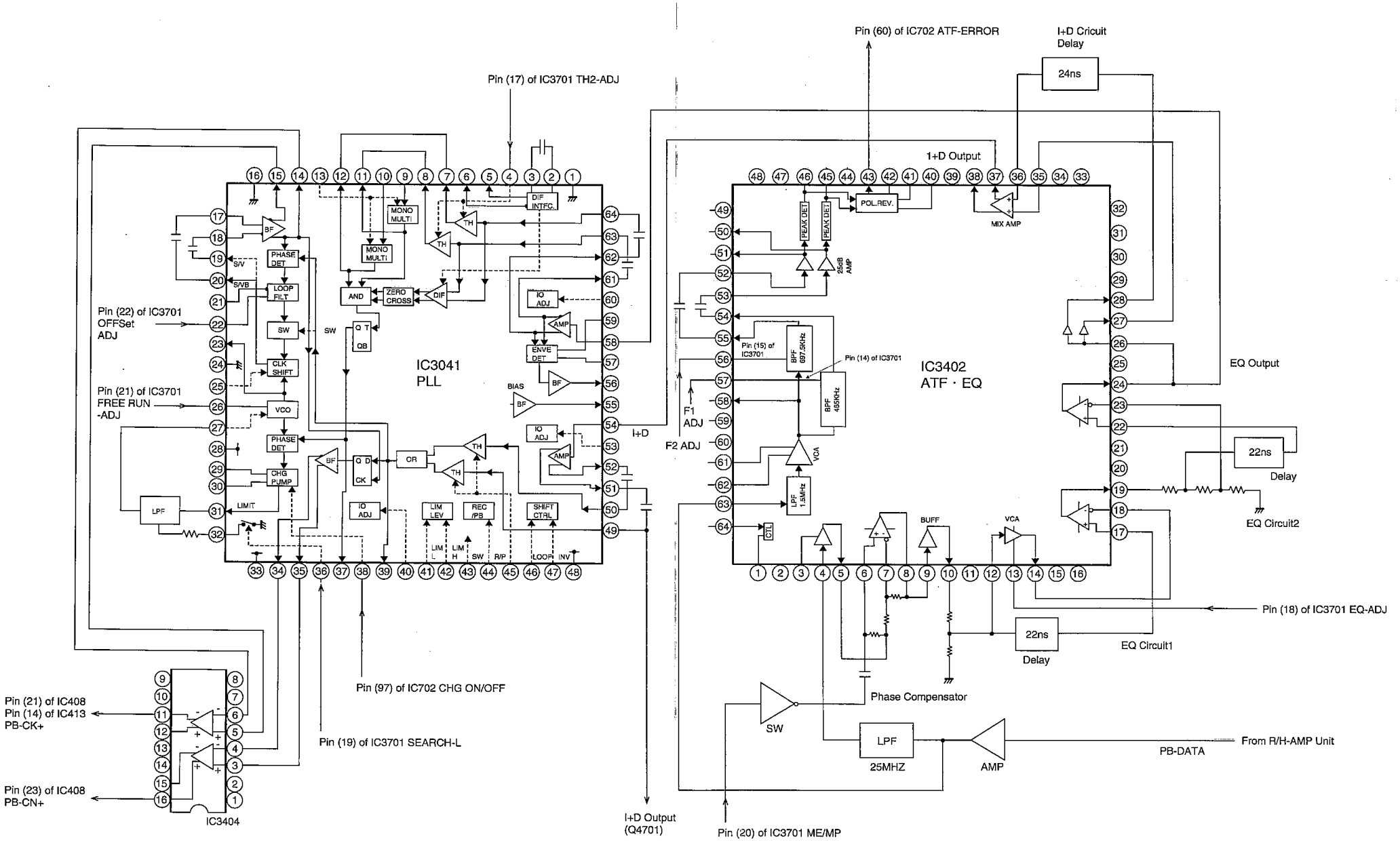
12-5. CAMERA CIRCUIT BLOCK DIAGRAM / BLOCKDIAGRAMM DES KAMERA-SCHALTKREISES
摄影机电路方框图



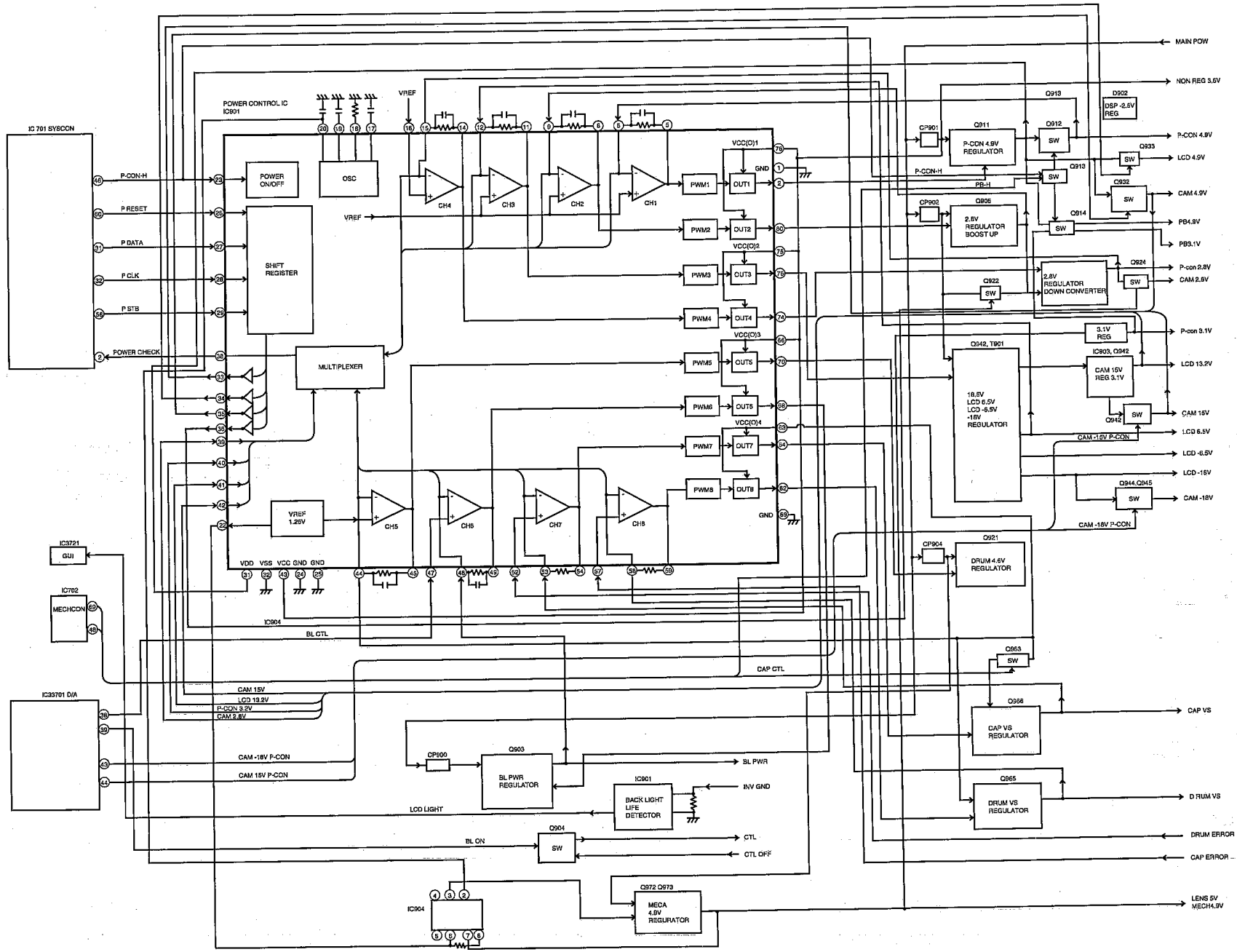
12-6. SYSTEM CONTROL/MECHANISM CONTROL BLOCK DIAGRAM / BLOCKDIAGRAMM DER SYSTEMSTEUERUNG/MECHANIKSTEUERUNG 系统控制/机构控制器电路方框图



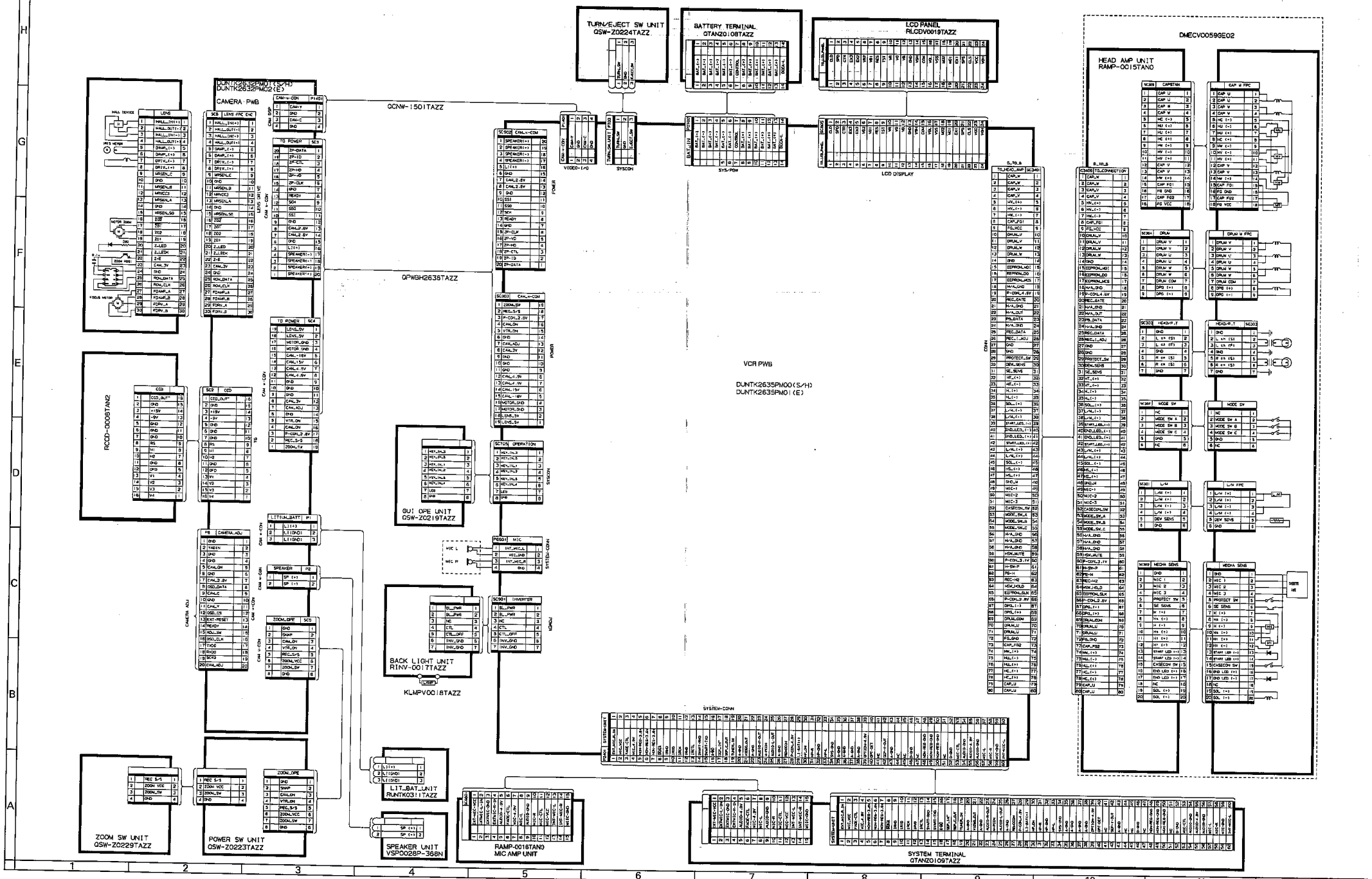
12-7. EQ/PLL BLOCK DIAGRAM / BLOCKDIAGRAMM EQ/PLL-SCHALTKREISES EQ/PLL方框图



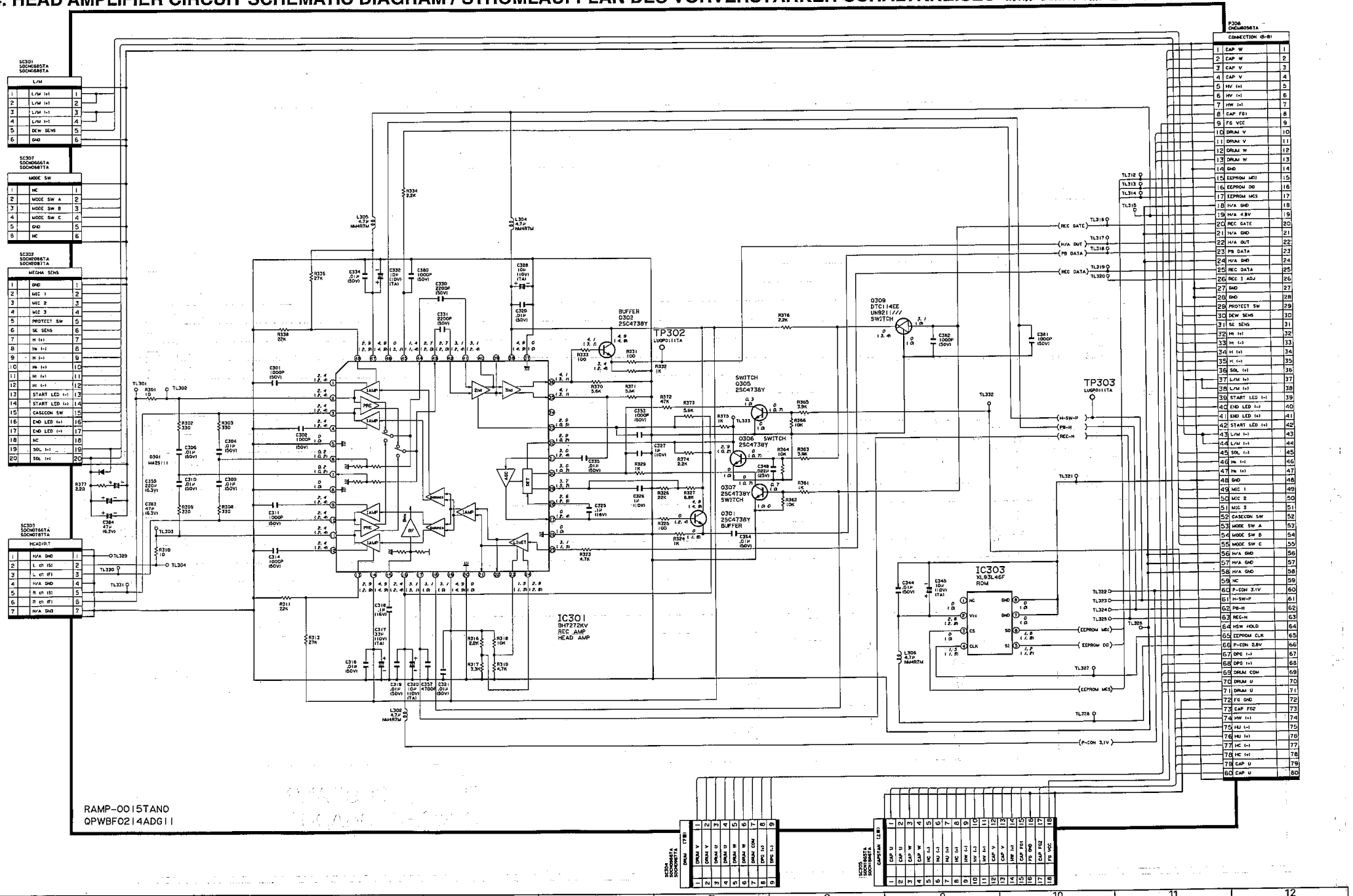
12-8. POWER SECTION BLOCK DIAGRAM / BLOCKDIAGRAMM DES STROMVERSORGUNGSTEILS 电源装置部分方框图



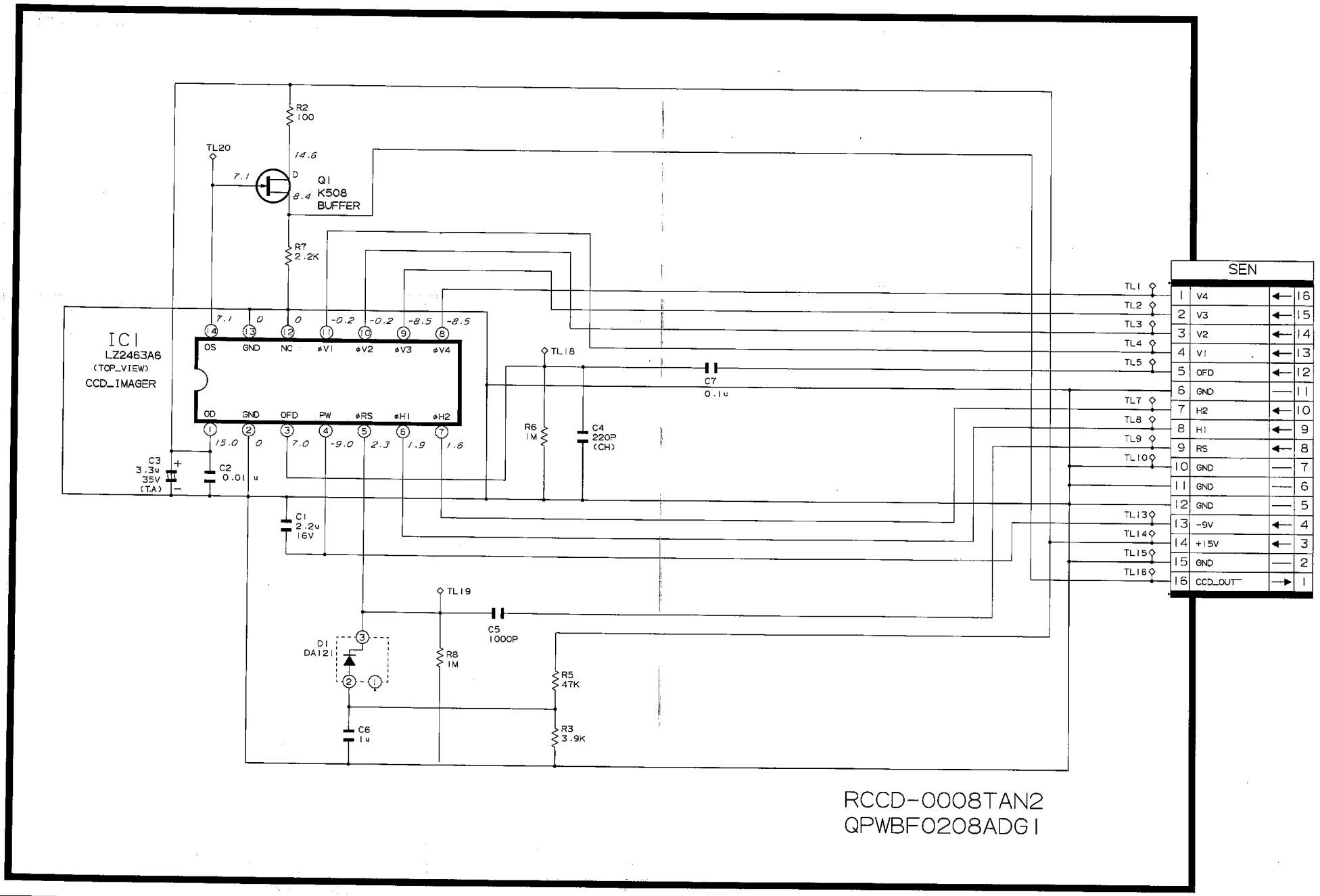
13. OVERALL WIRING DIAGRAM / GESAMT-STROMLAUFPLAN 整体电路方框图



14. HEAD AMPLIFIER CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES VORVERSTÄRKER-SCHALTKREISES 摄影机放大器电路原理图

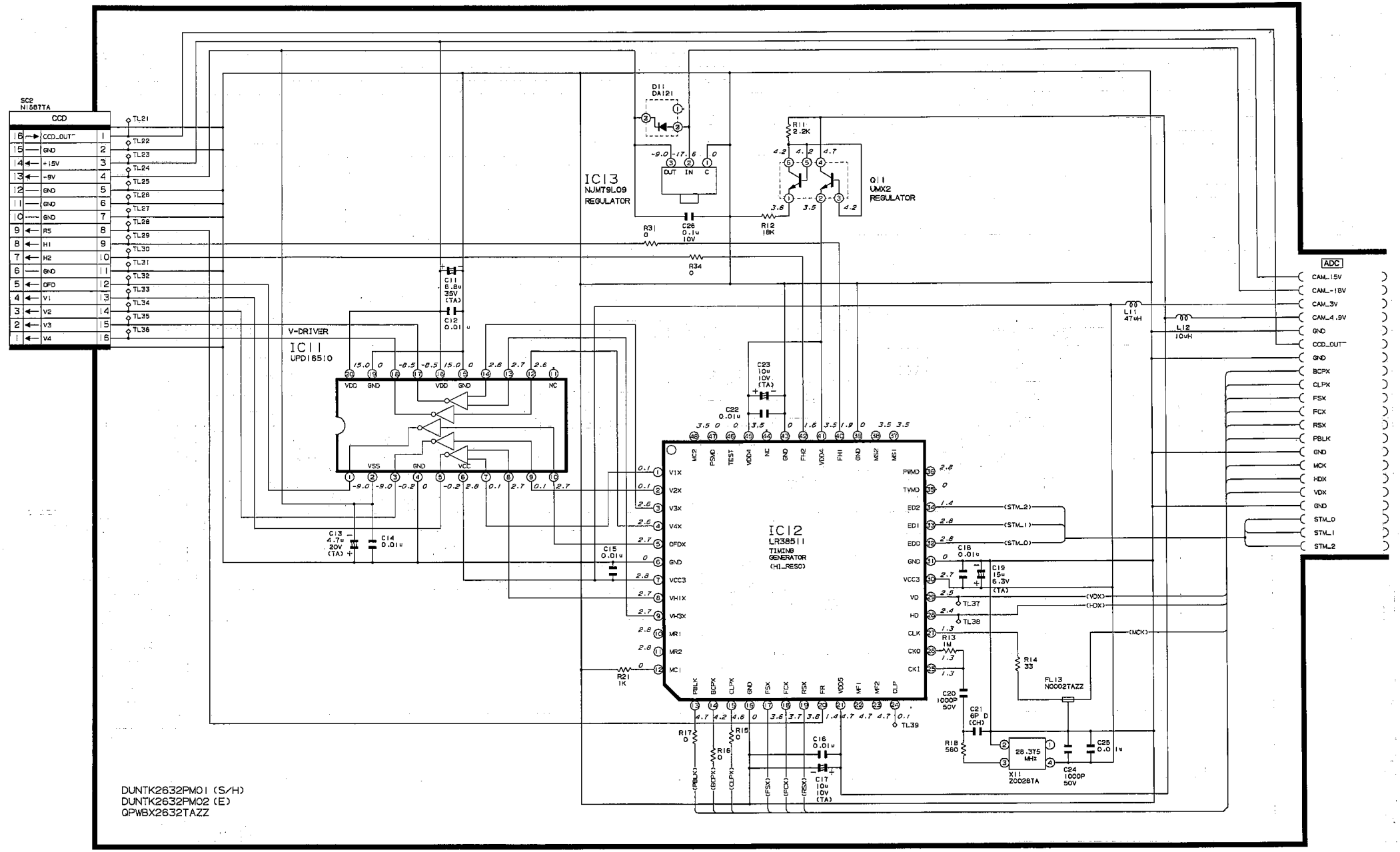


15. CAM CCD CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES CAM CCD-SCHALTKREISES CAM CCD电路原理图



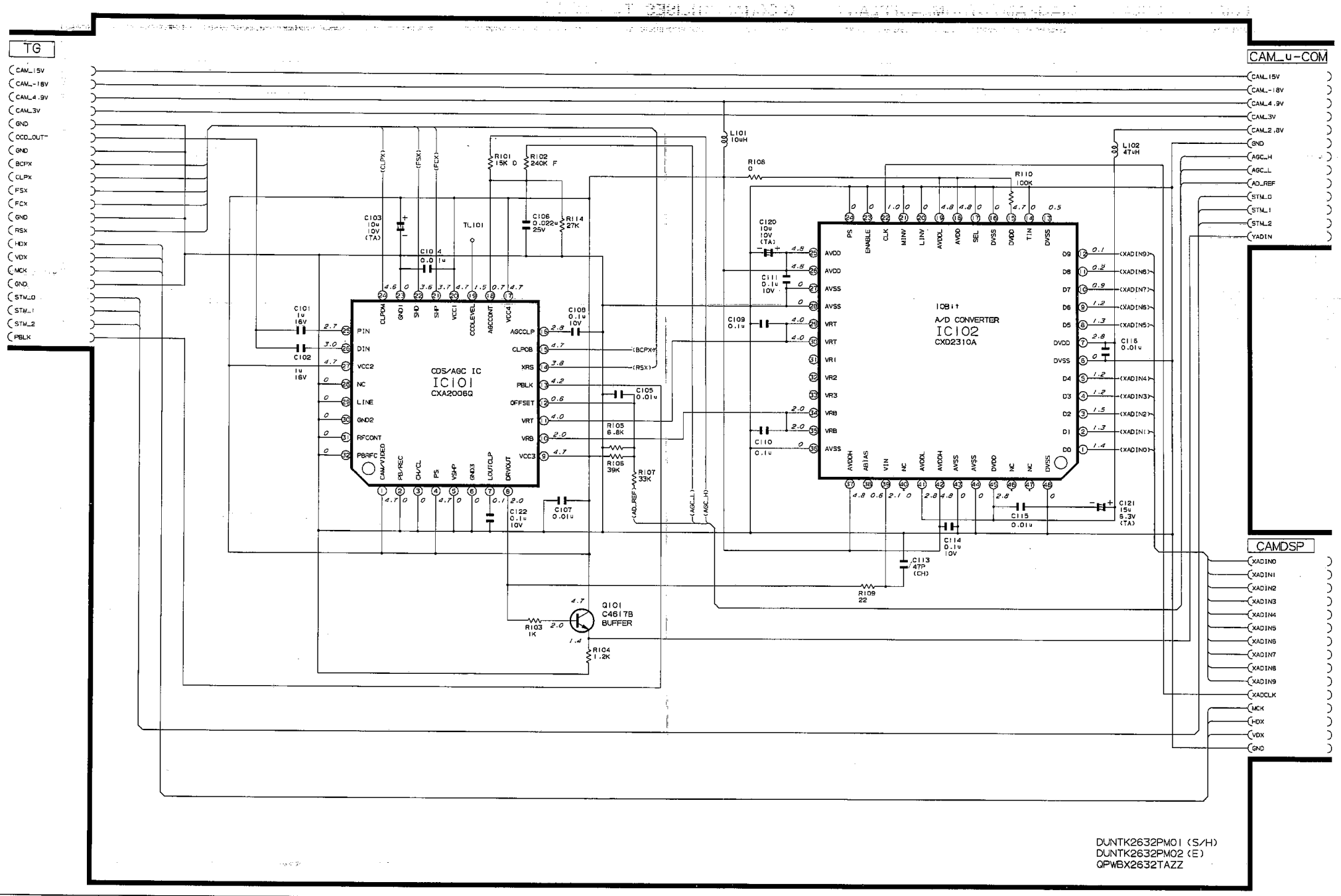
16. CAMERA CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES KAMERA-SCHALTKREISES 摄影机电路原理图

16-1. TG CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES TG-SCHALTKREISES TG电路原理图

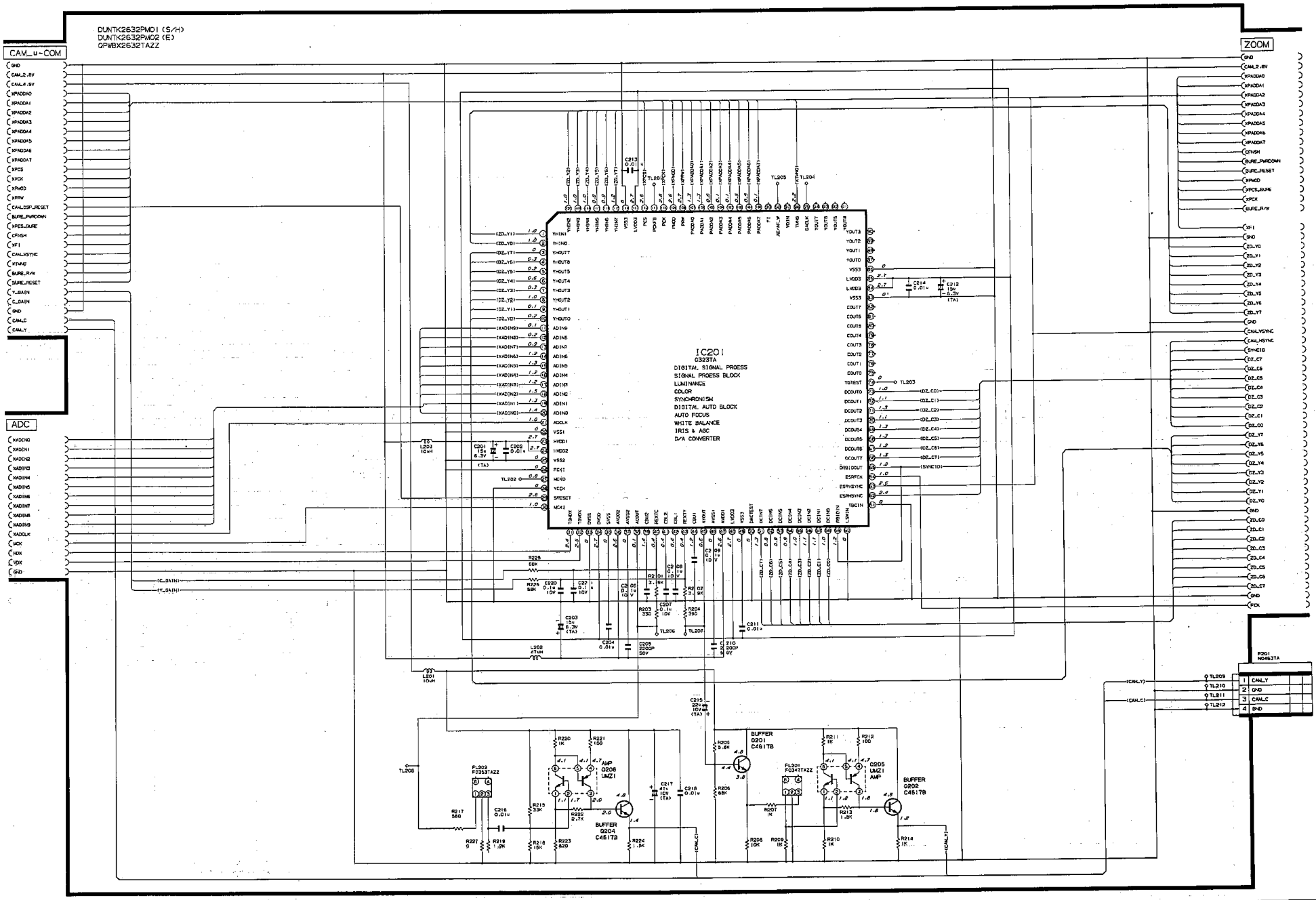


DUNTK2632PM01 (S/H)
DUNTK2632PM02 (E)
QPWBX2632TAZZ

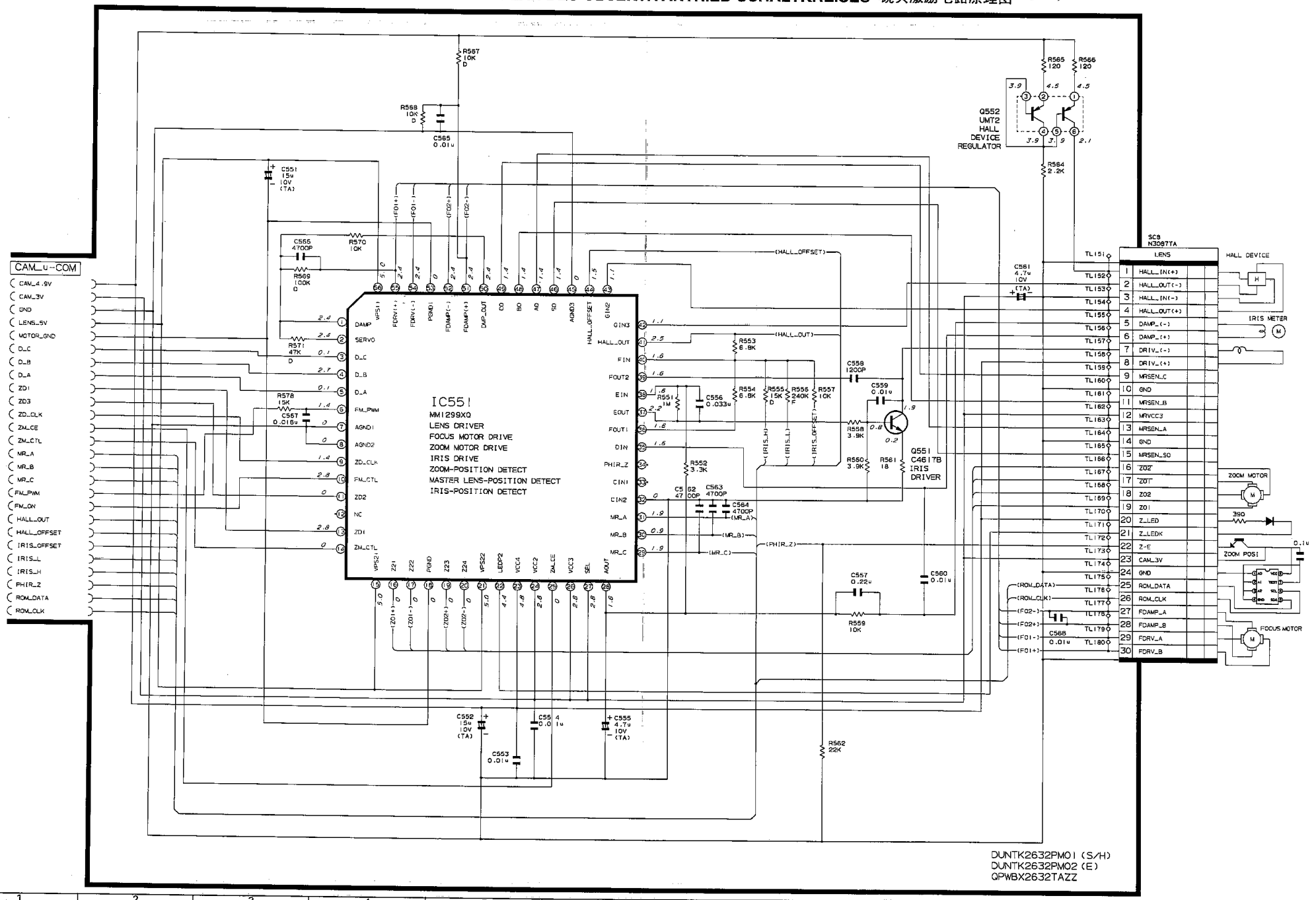
16-2. ADC CIRCUIT SCHEMATIC DIAGRAM/STROMLAUFPLAN DES ADC-SCHALTKREISES/ADC电路原理图



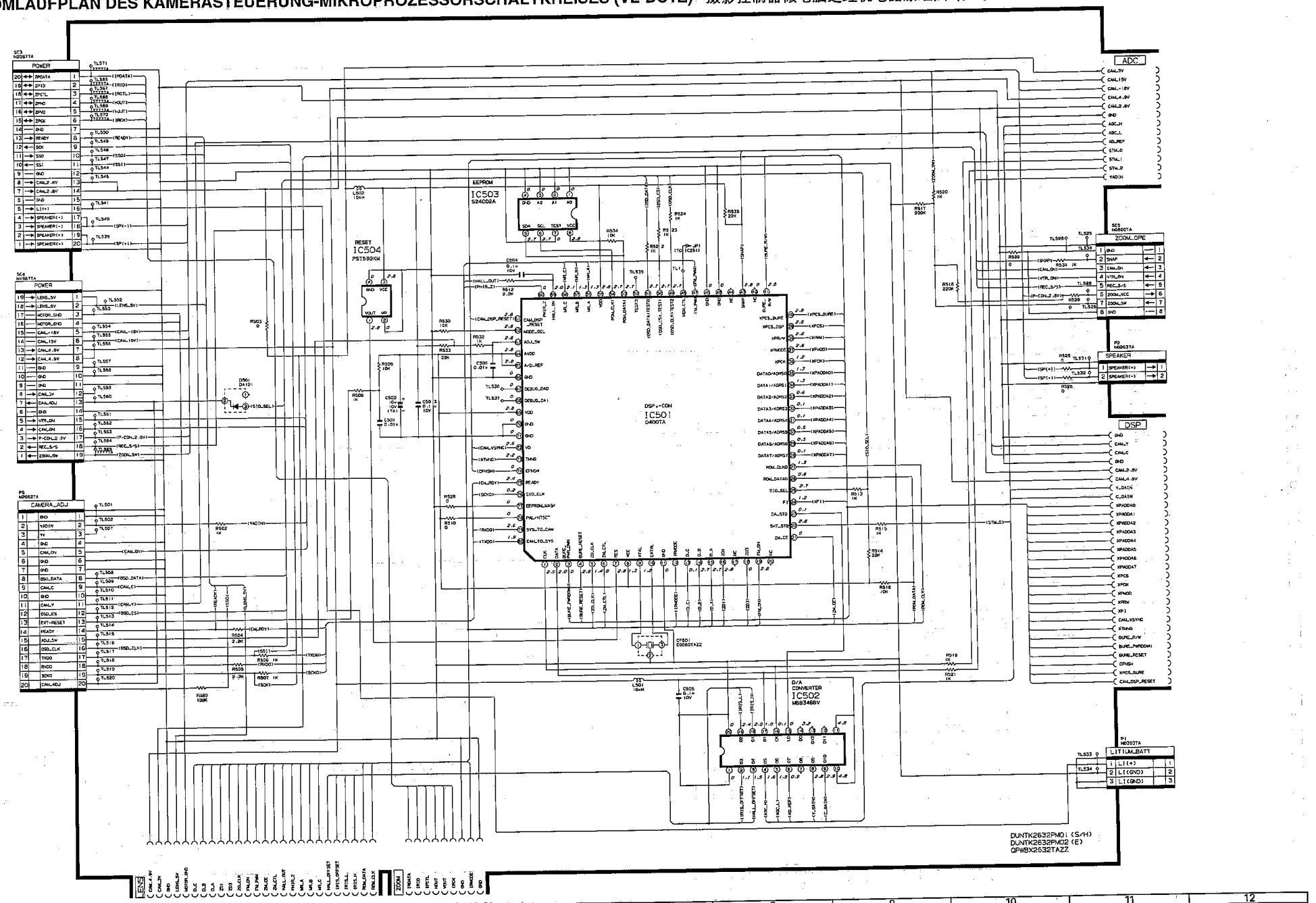
16-3. CAMERA DISPLAY CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES KAMERADISPLAY-SCHALTKREISES 摄影机显示屏电路原理图



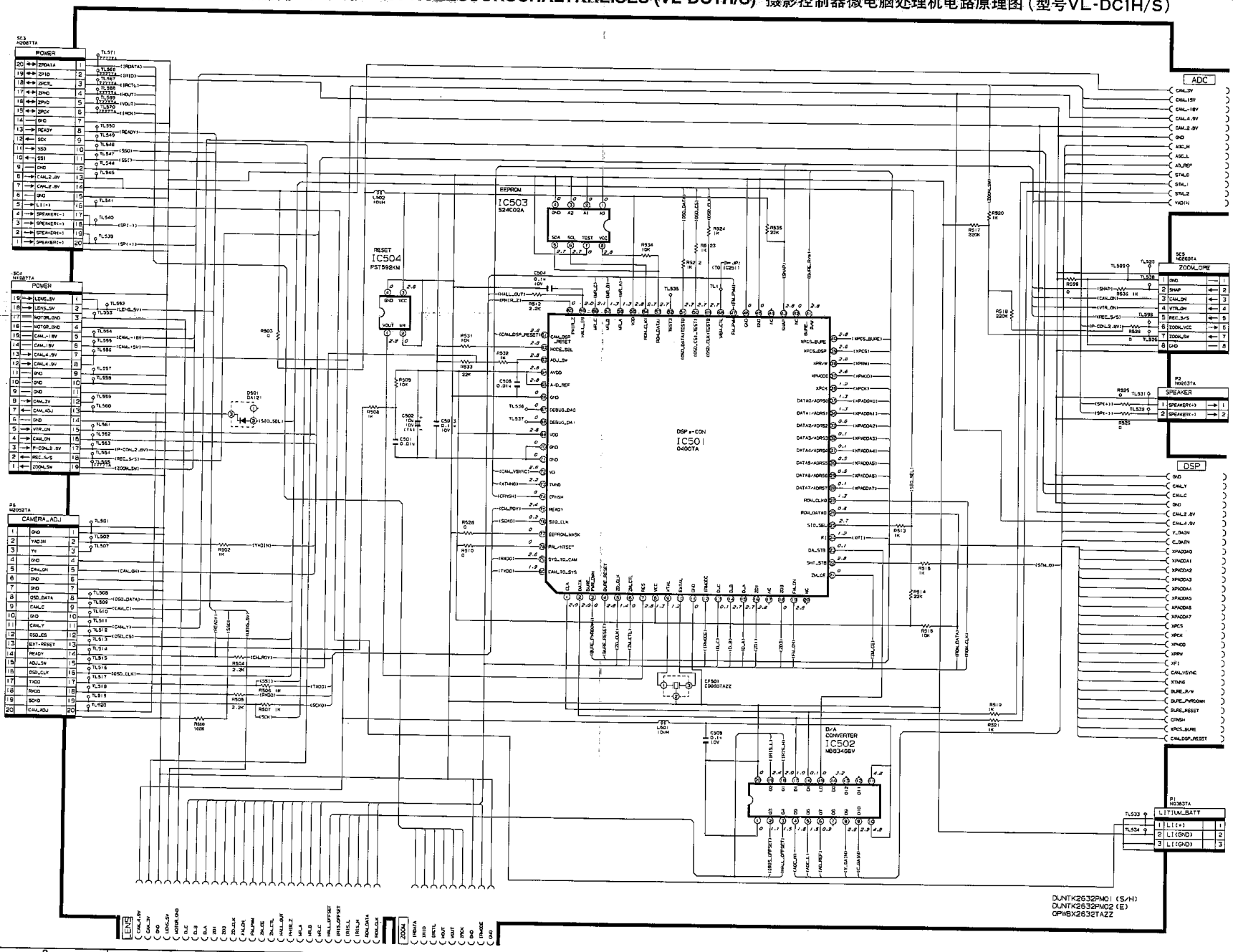
16-4. LENS DRIVE CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES OBJEKTIVANTRIEB-SCHALTKREISES 镜头激励电路原理图



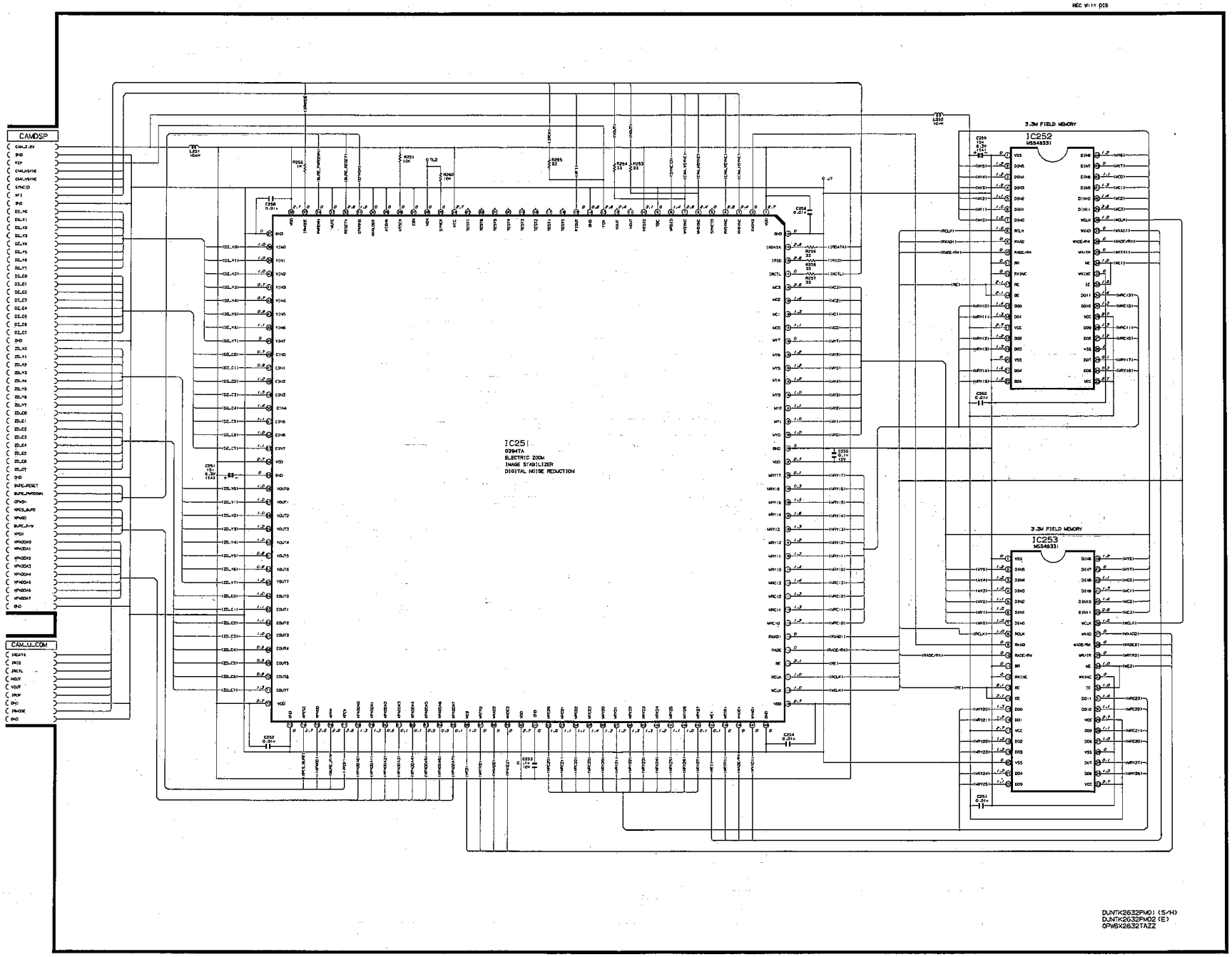
16-5. CAMERA CONTROL MICROPROCESSOR CIRCUIT SCHEMATIC DIAGRAM (VL-DC1E) / STROMLAUFPLAN DES KAMERASTEUERUNG-MIKROPROZESSORSCHALTKREISES (VL-DC1E) 摄影控制器微电脑处理机电路原理图（型号VL-DC1E）



16-6. CAMERA CONTROL MICROPROCESSOR CIRCUIT SCHEMATIC DIAGRAM (VL-DC1H/S) / STROMLAUFPLAN DES KAMERASTEUERUNG-MIKROPROZESSORSCHALTKREISES (VL-DC1H/S) 摄影控制器微电脑处理机电路原理图（型号VL-DC1H/S）

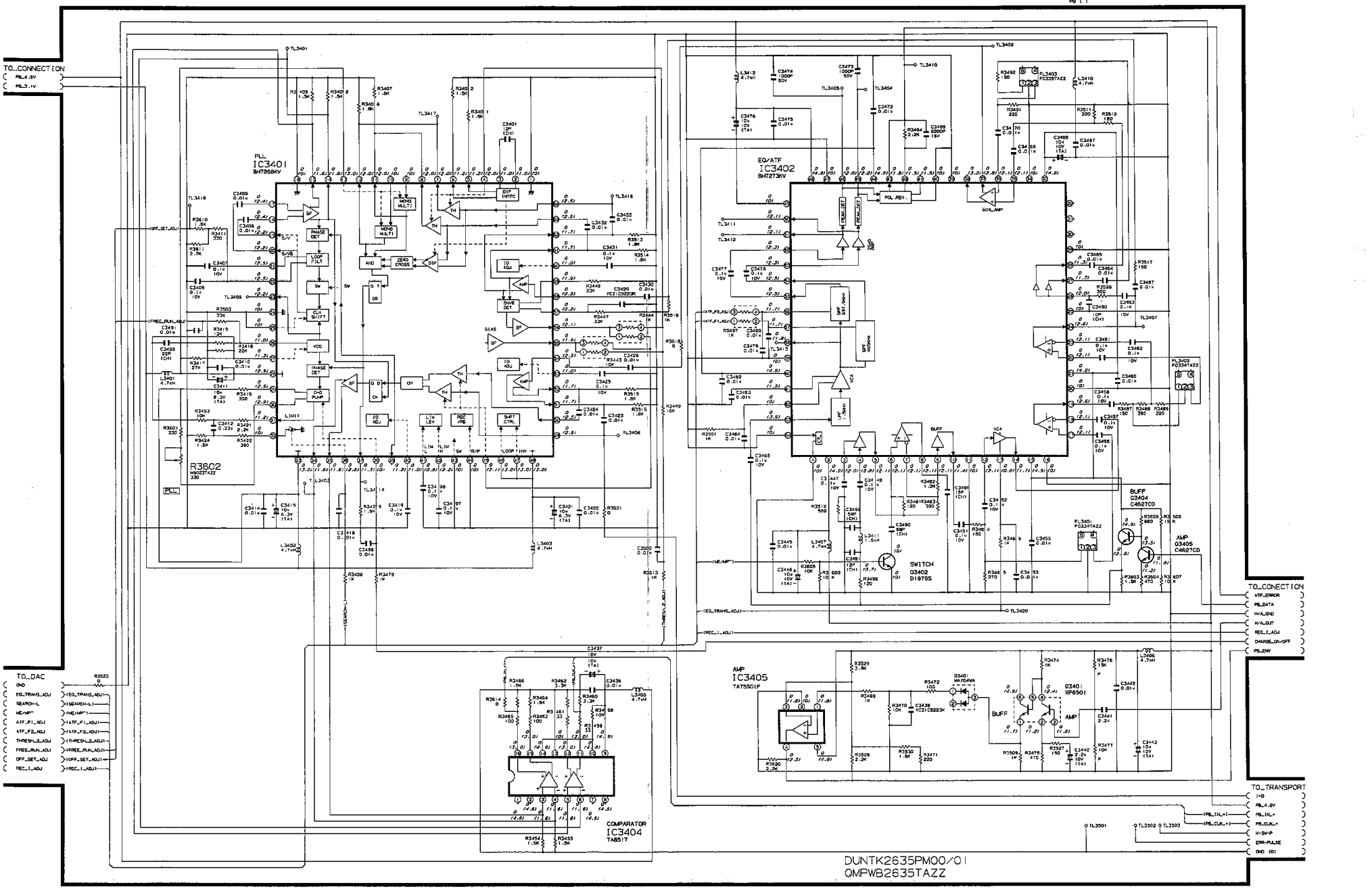


16-7. ZOOM CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES ZOOM-SCHALTKREISES 变焦电路原理图

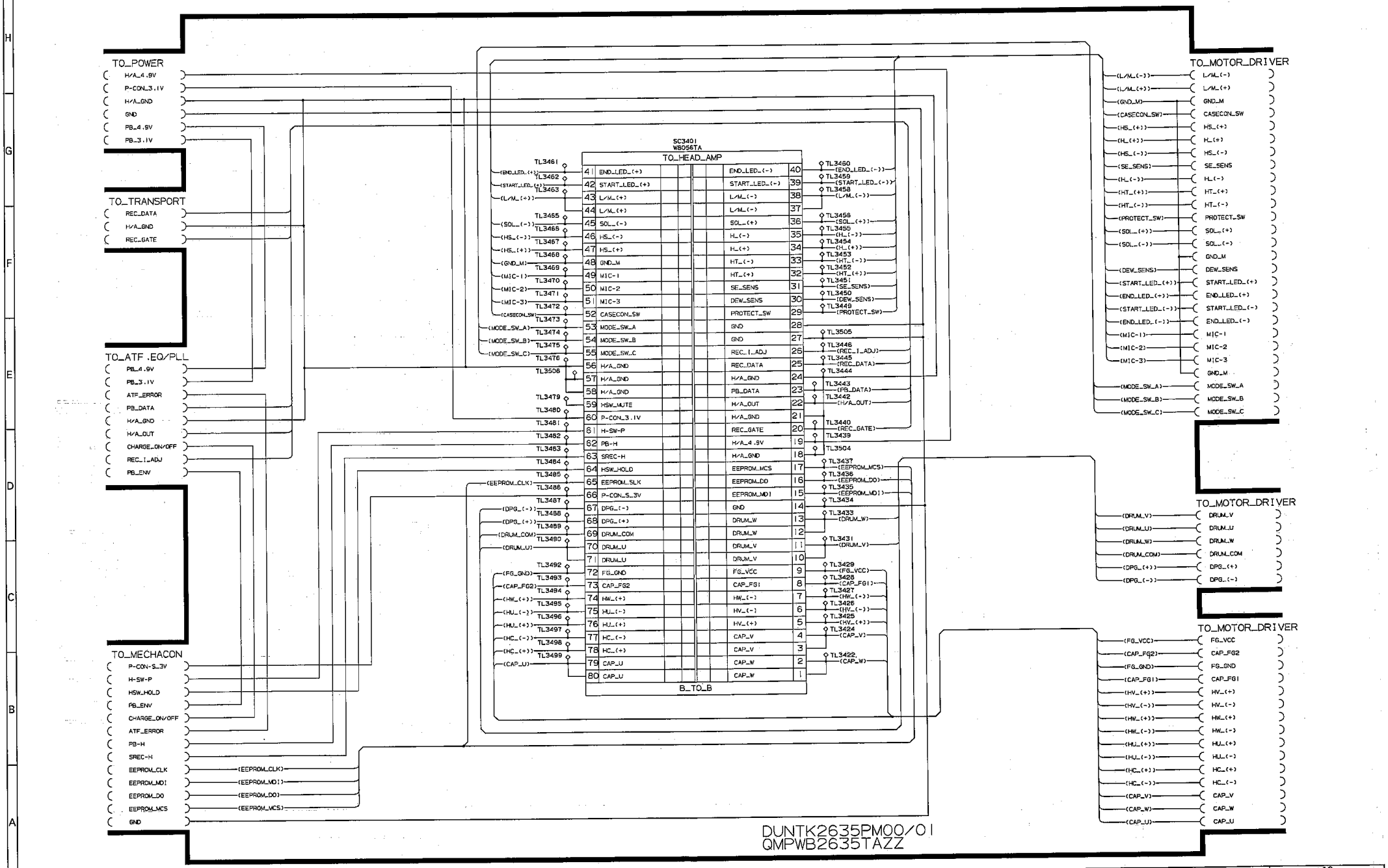


17. VCR-1 CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES VCR-1-SCHALTKREISES 录像机-1电路原理图

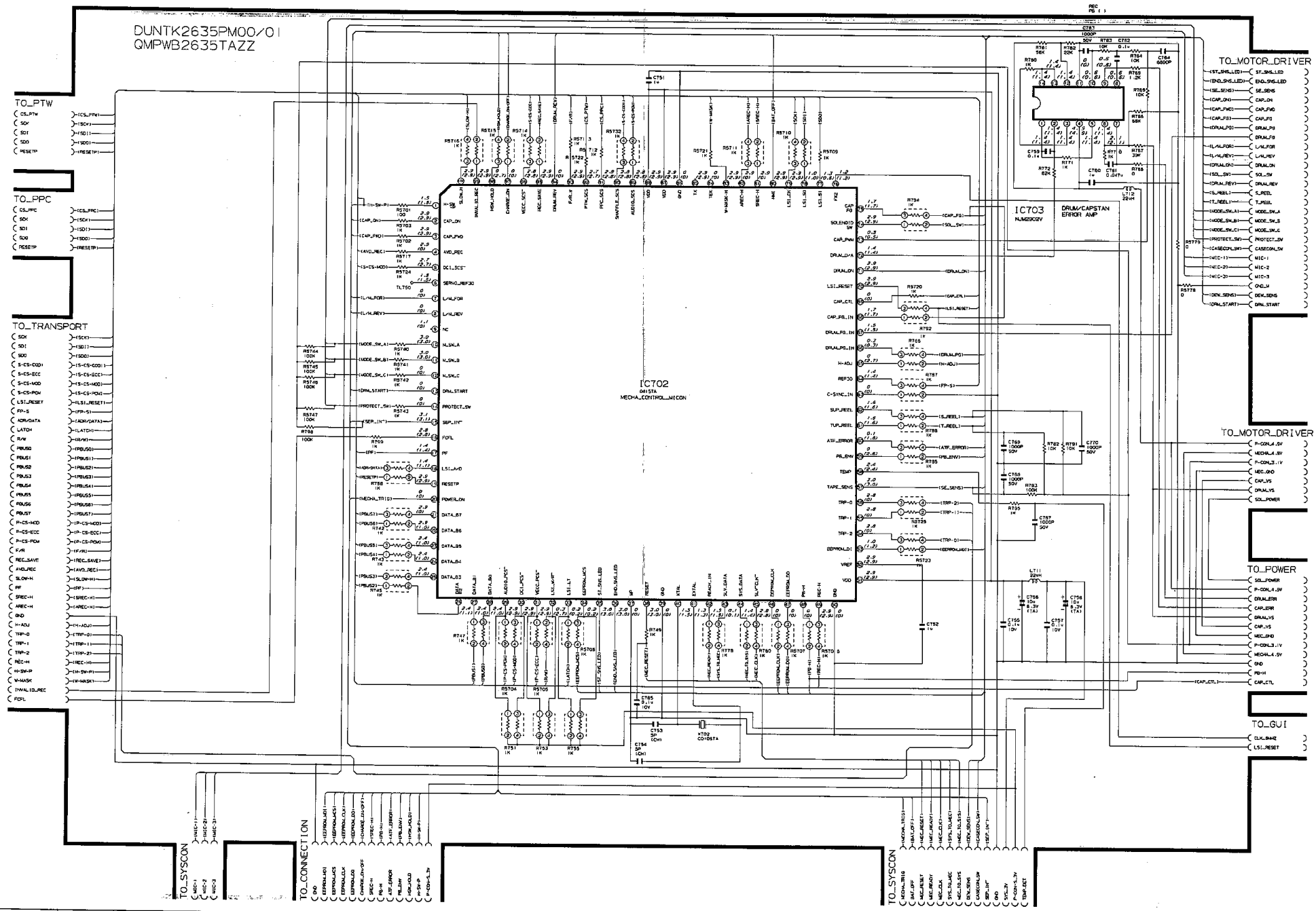
17-1. ATF EQ/PLL CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES ATF EQ/PLL-SCHALTKREISES ATF EQ/PLL电路原理图



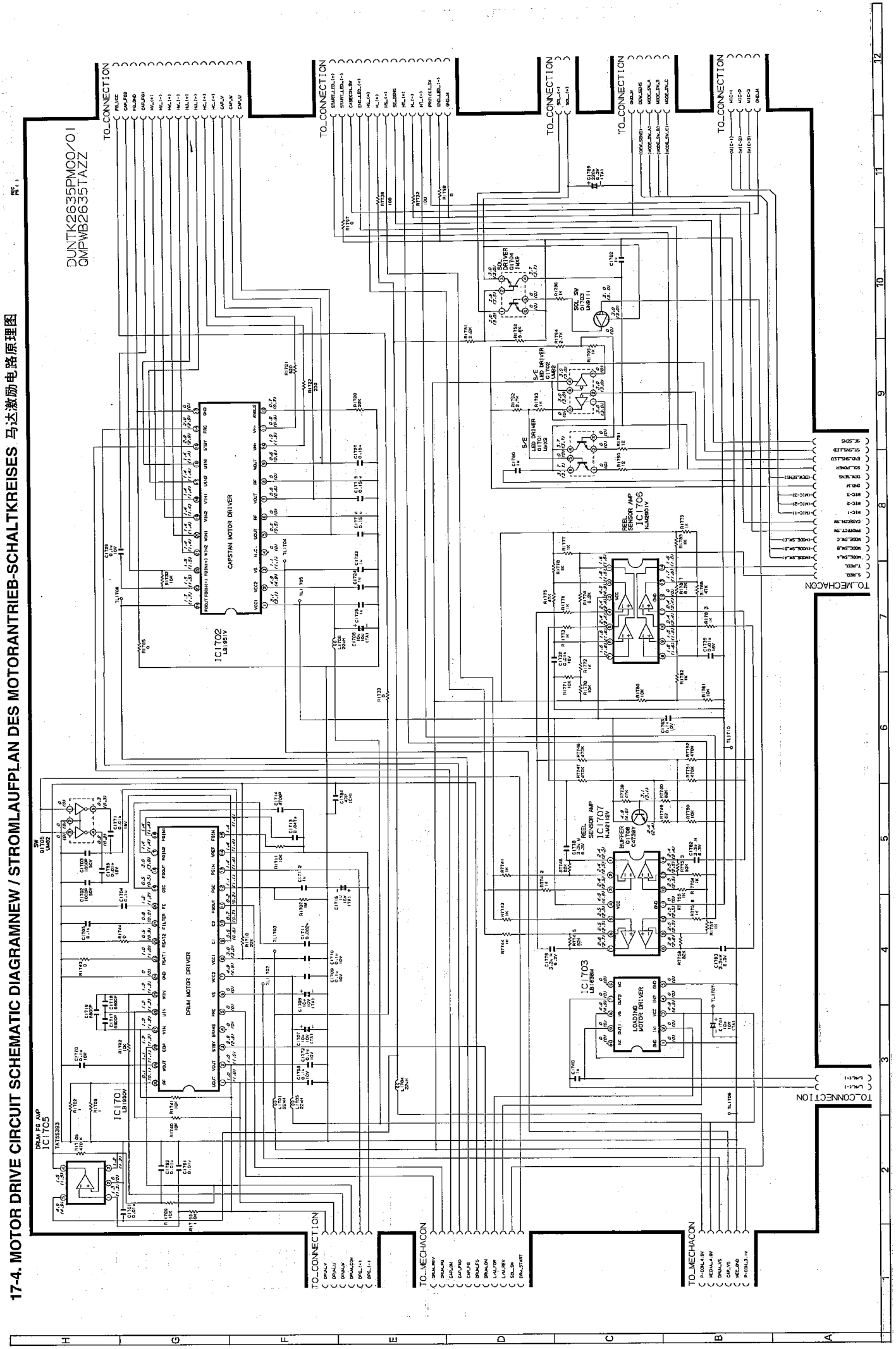
17-2. CONNECTION (B-B) CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES ANSCHLUSS-SCHALTKREISES (B-B) 连接(B-B)电路原理图



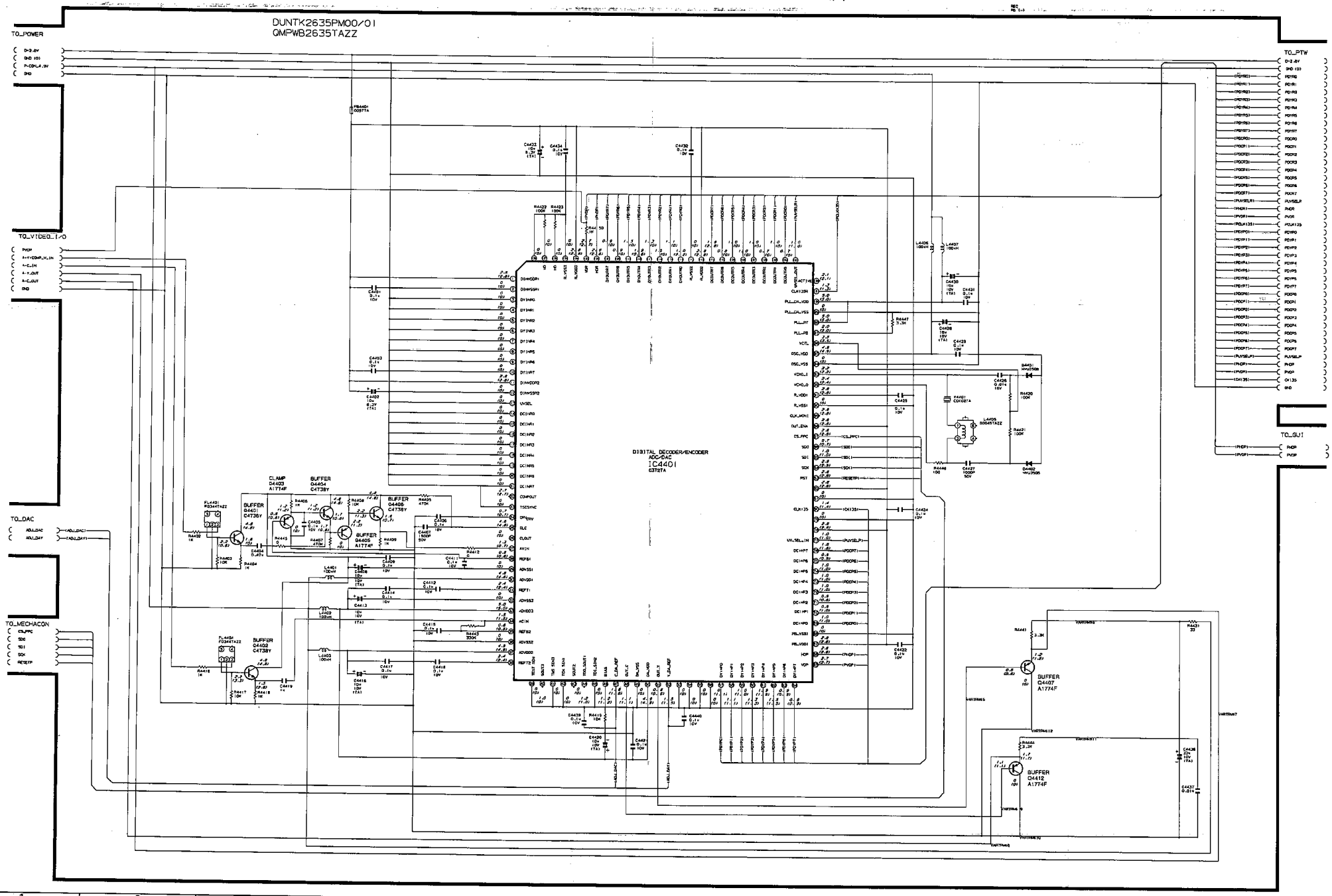
17-3. MECHANICAL CONVERTER CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES MECHANISCHEN WANDLER-SCHALTKREISES 机构变频器电路原理图



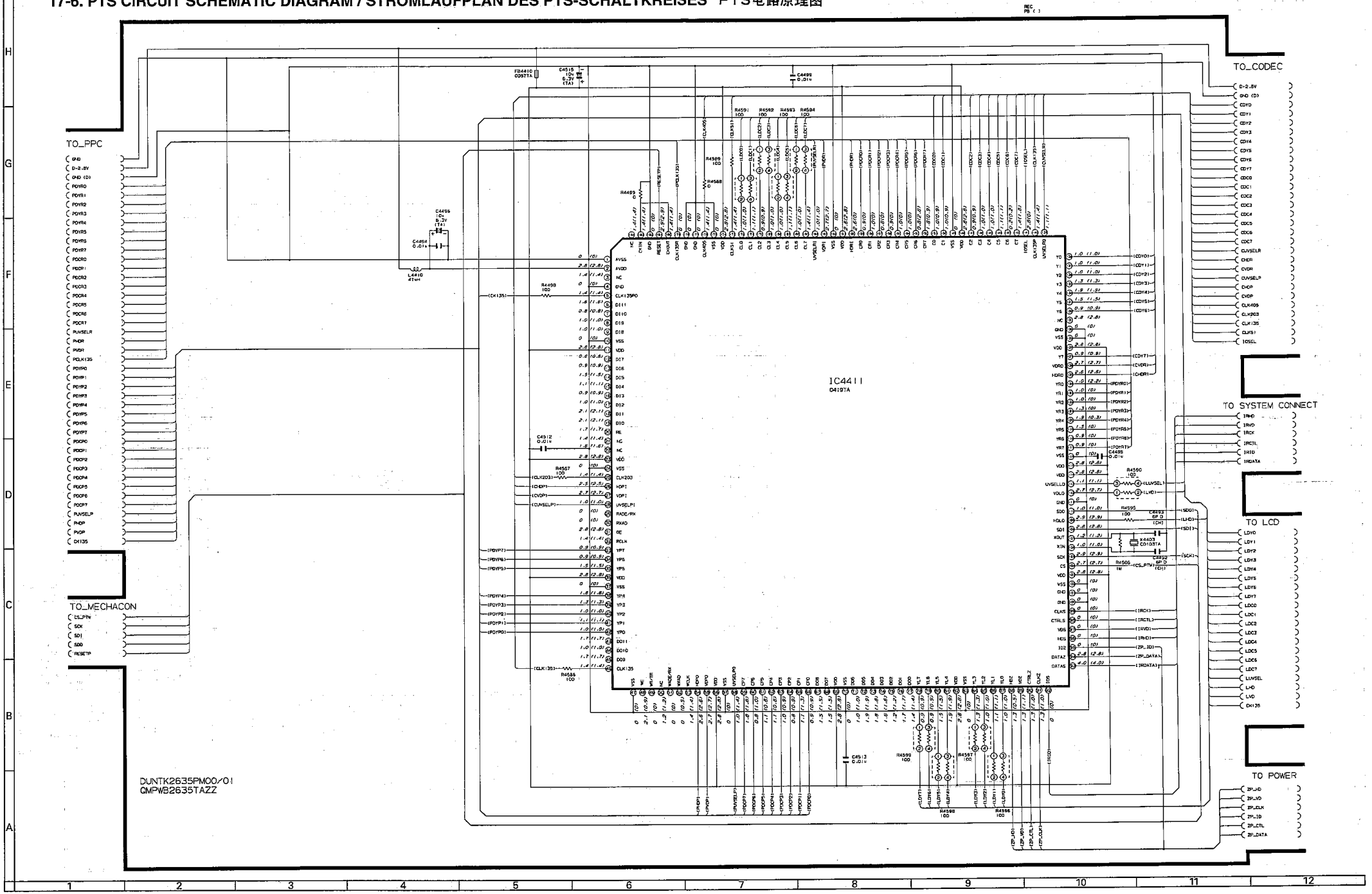
17-4. MOTOR DRIVE CIRCUIT SCHEMATIC DIAGRAMNEW / STROMLAUFPLAN DES MOTORANTRIEB-SCHALTKREISES 马达激励电路原理图



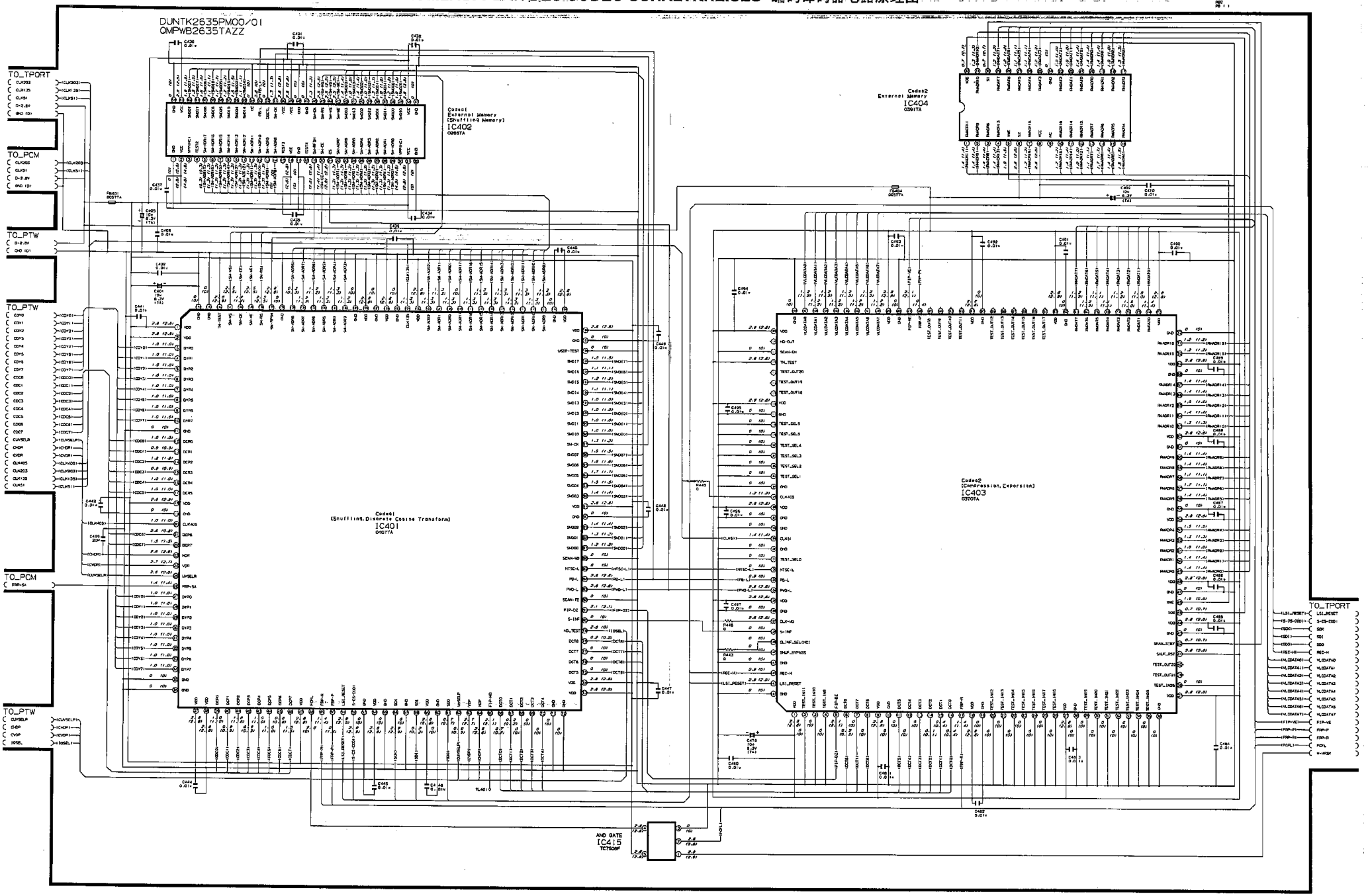
17-5. PC/IO CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES PC/IO-SCHALTKREISES PC/IO电路原理图



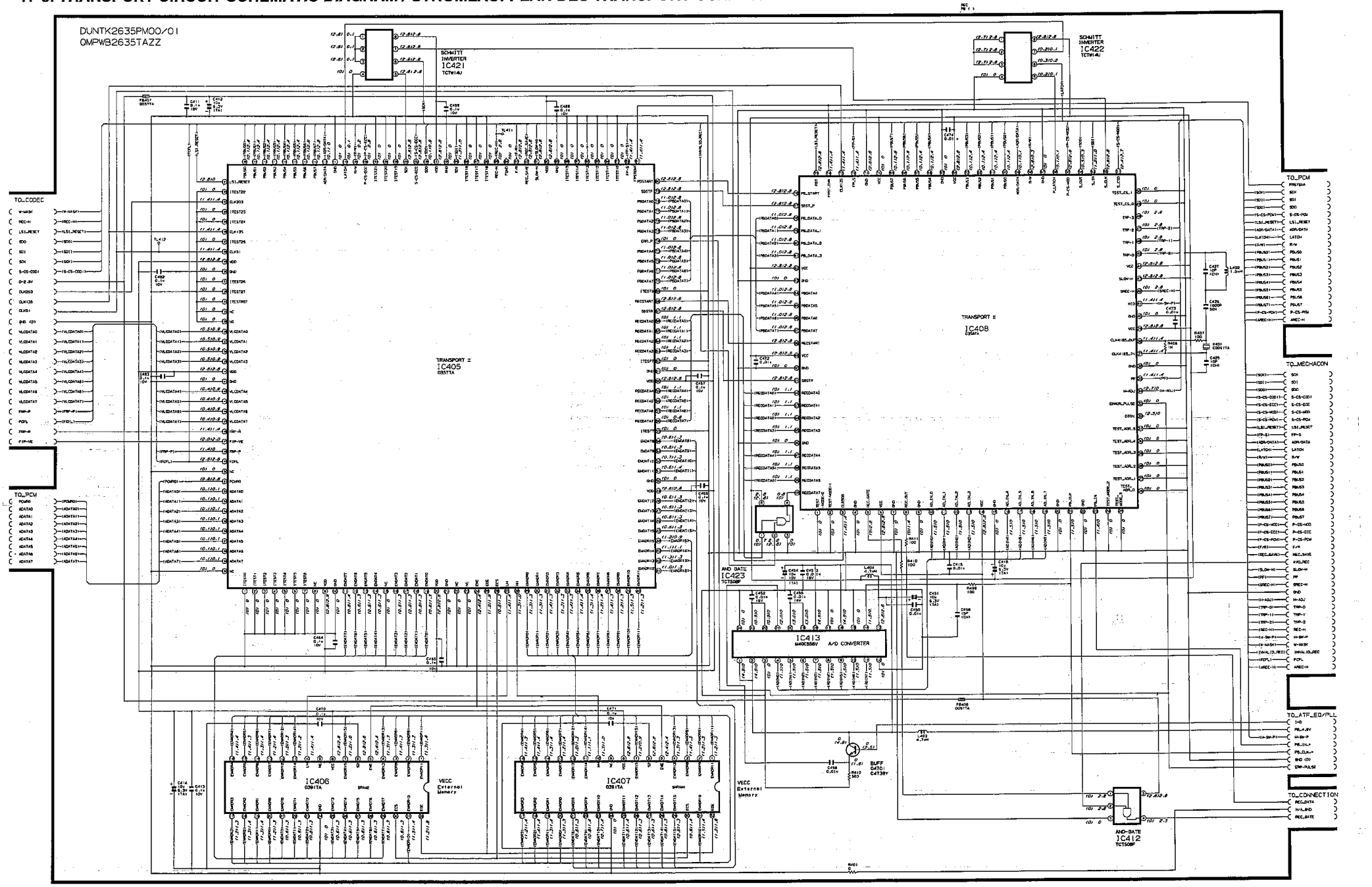
17-6. PTS CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES PTS-SCHALTKREISES PTS电路原理图



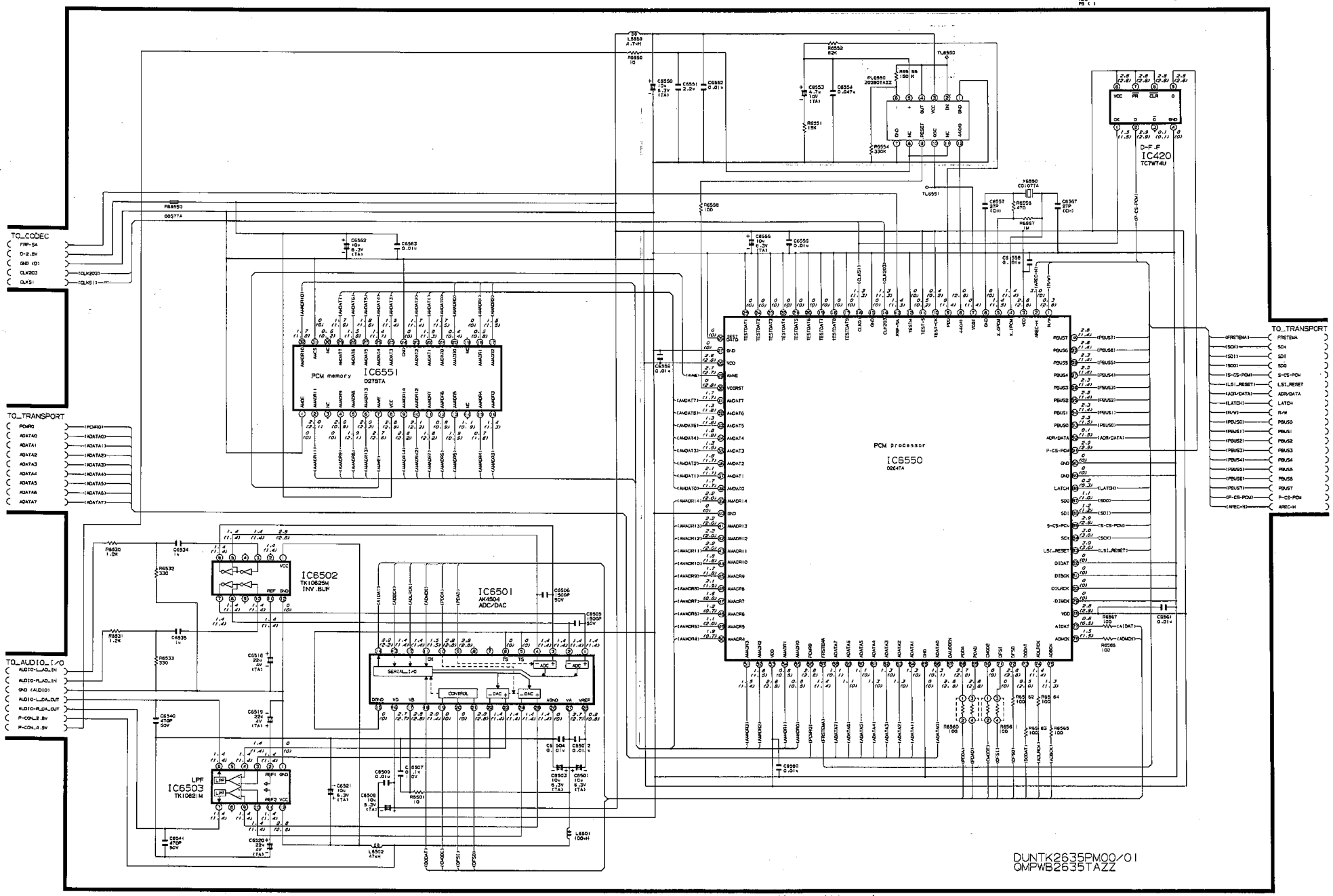
17-7. CODEC CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES CODEC-SCHALTKREISES 编码译码器电路原理图



17-8. TRANSPORT CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES TRANSPORT-SCHALTKREISES 传送电路原理图

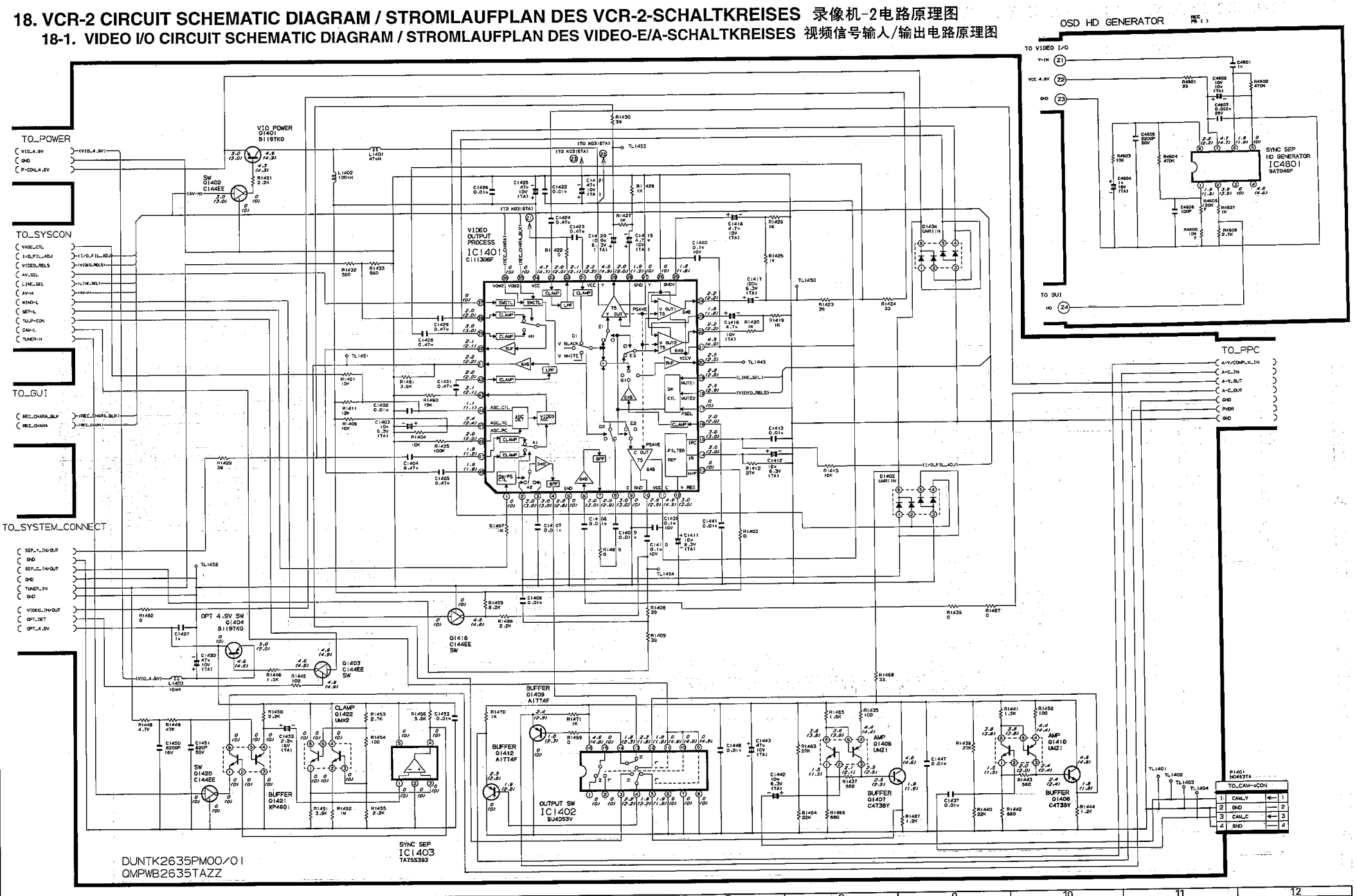


17-9. PCM CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES PCM-SCHALTKREISES PCM电路原理图:

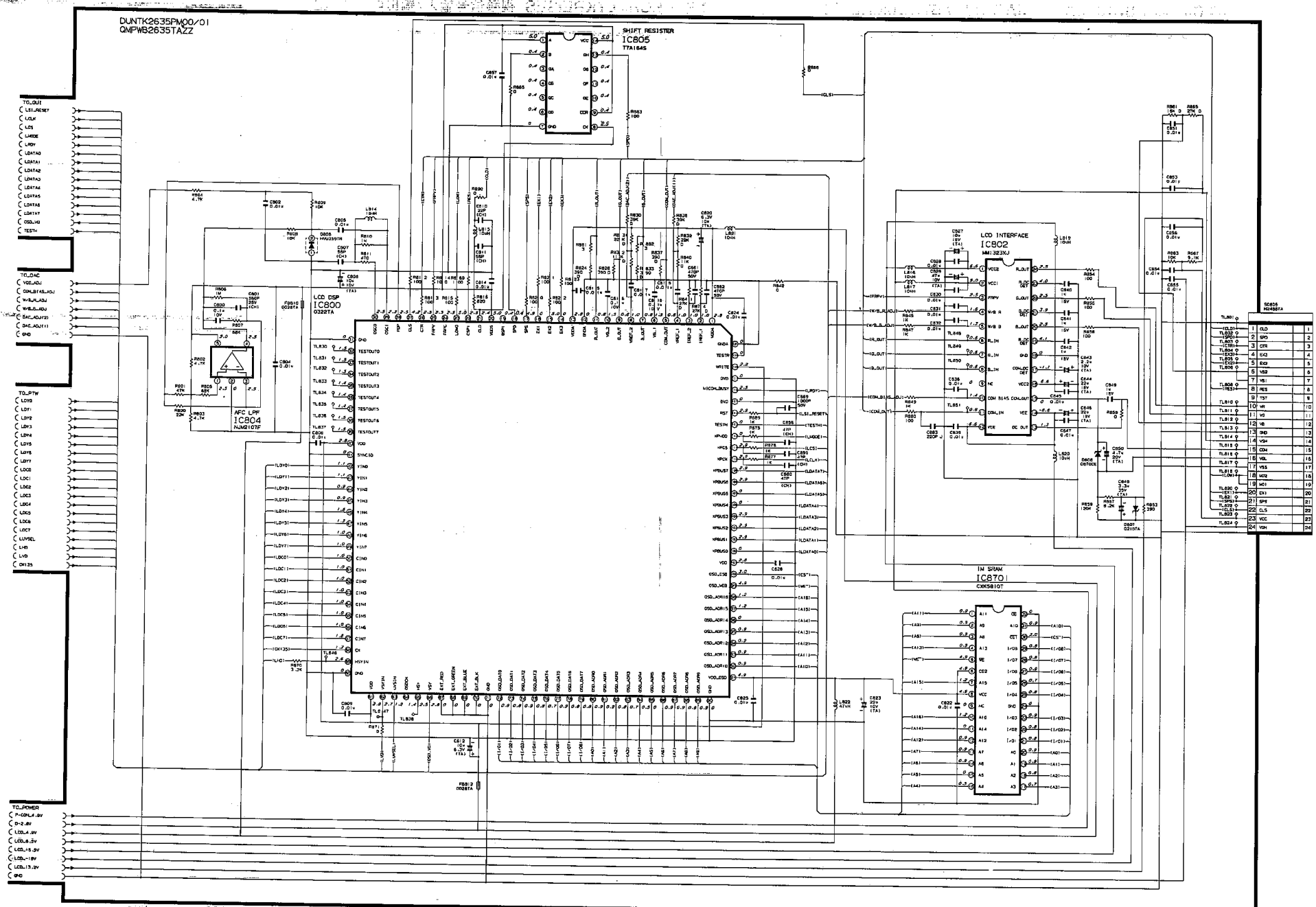


18. VCR-2 CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES VCR-2-SCHALTKREISES 录像机-2电路原理图

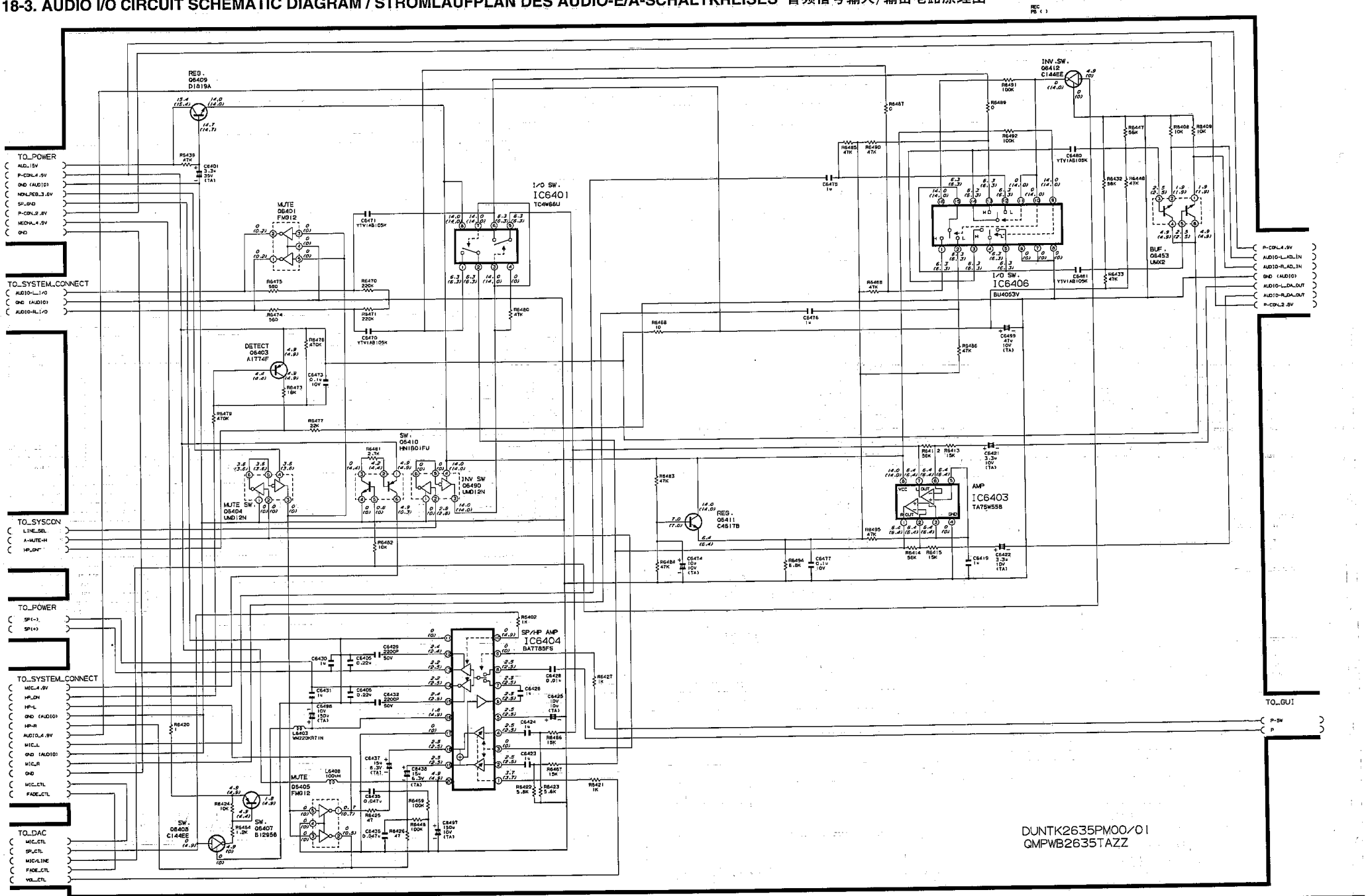
18-1. VIDEO I/O CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES VIDEO-E/A-SCHALTKREISES 视频信号输入/输出电路原理图



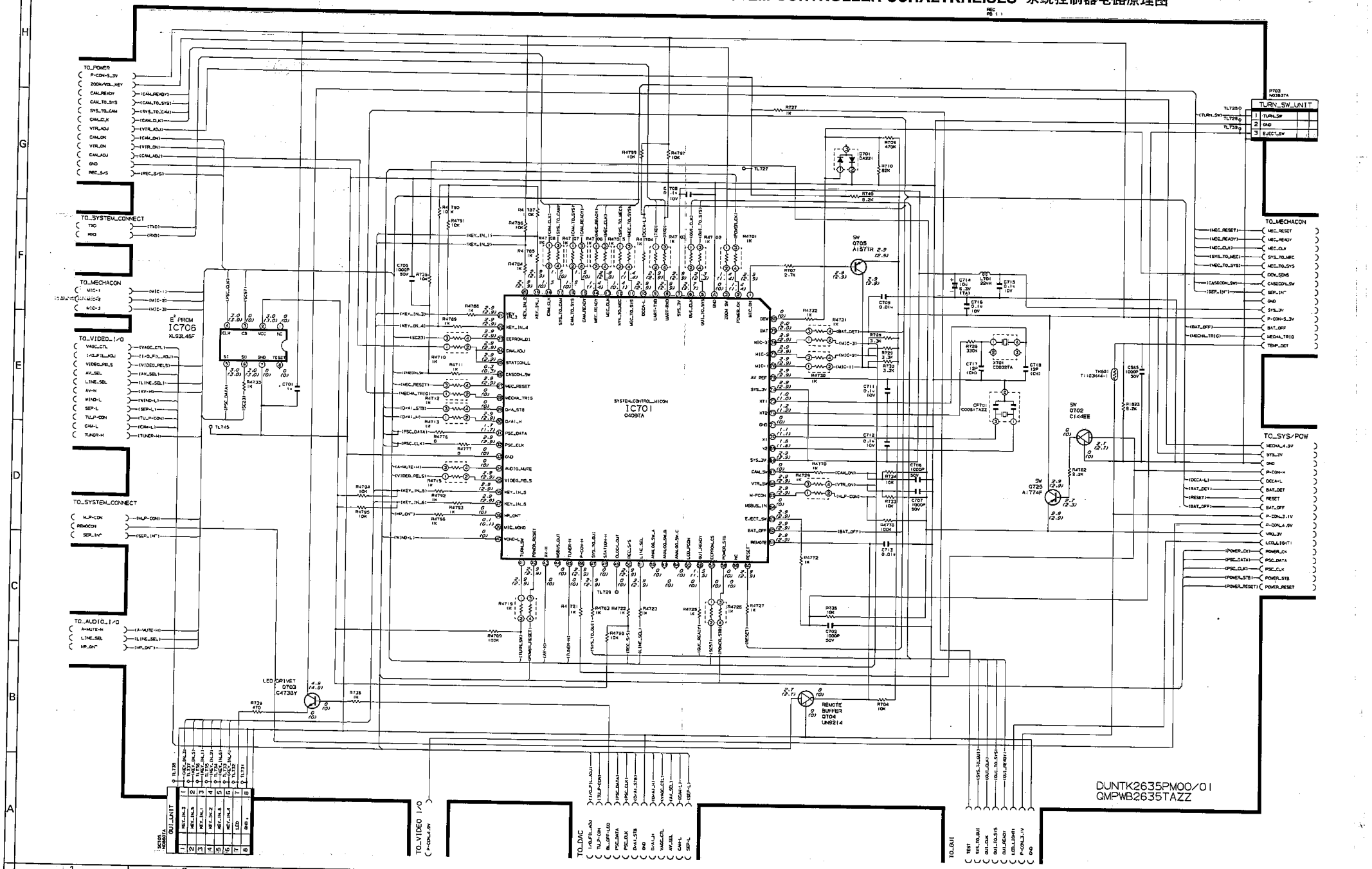
18-2. LCD DISPLAY CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES LCD-DISPLAY-SCHALTKREISES 液晶显示器电路原理图



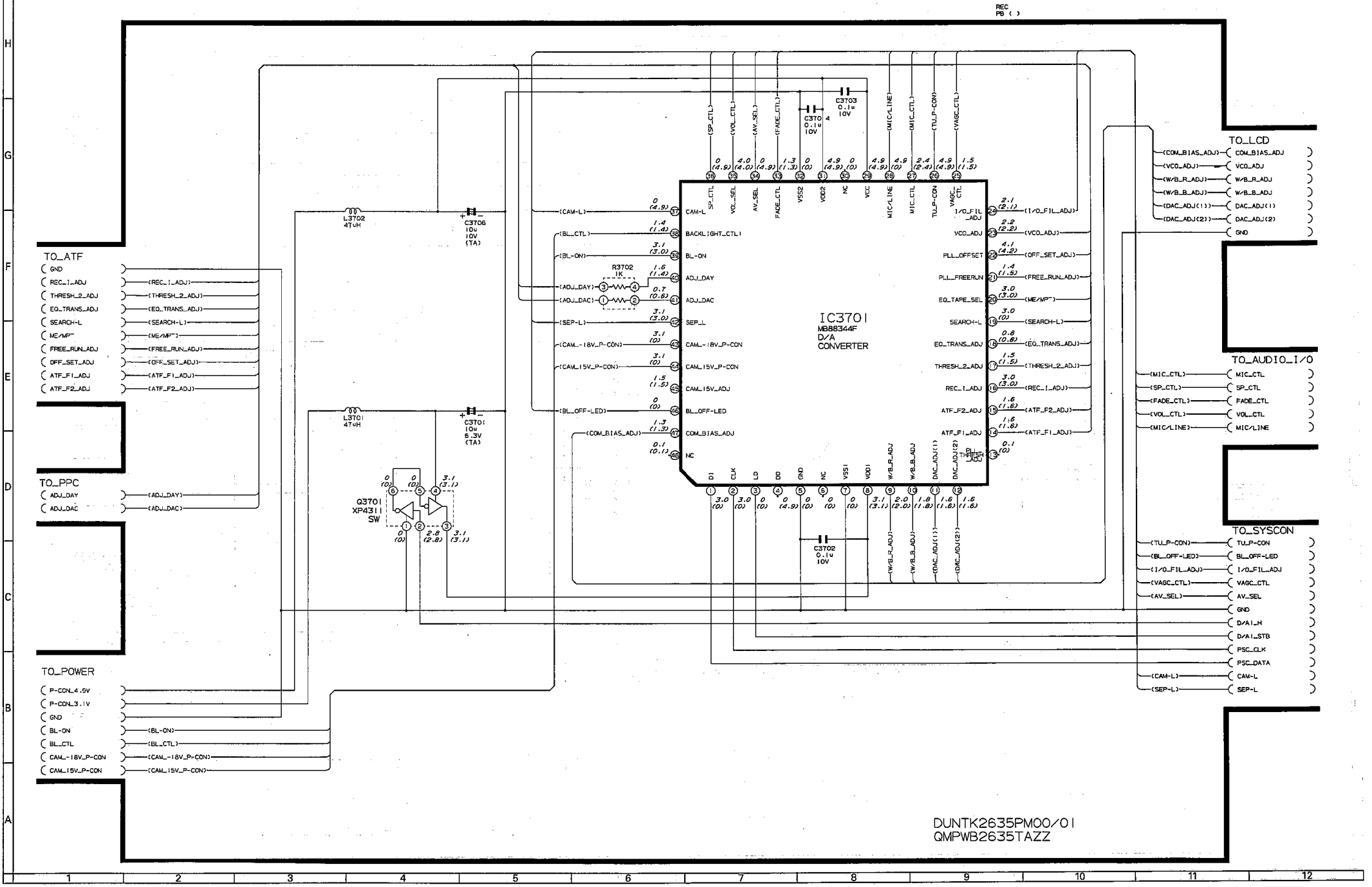
18-3. AUDIO I/O CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES AUDIO-E/A-SCHALTKREISES 音频信号输入/输出电路原理图



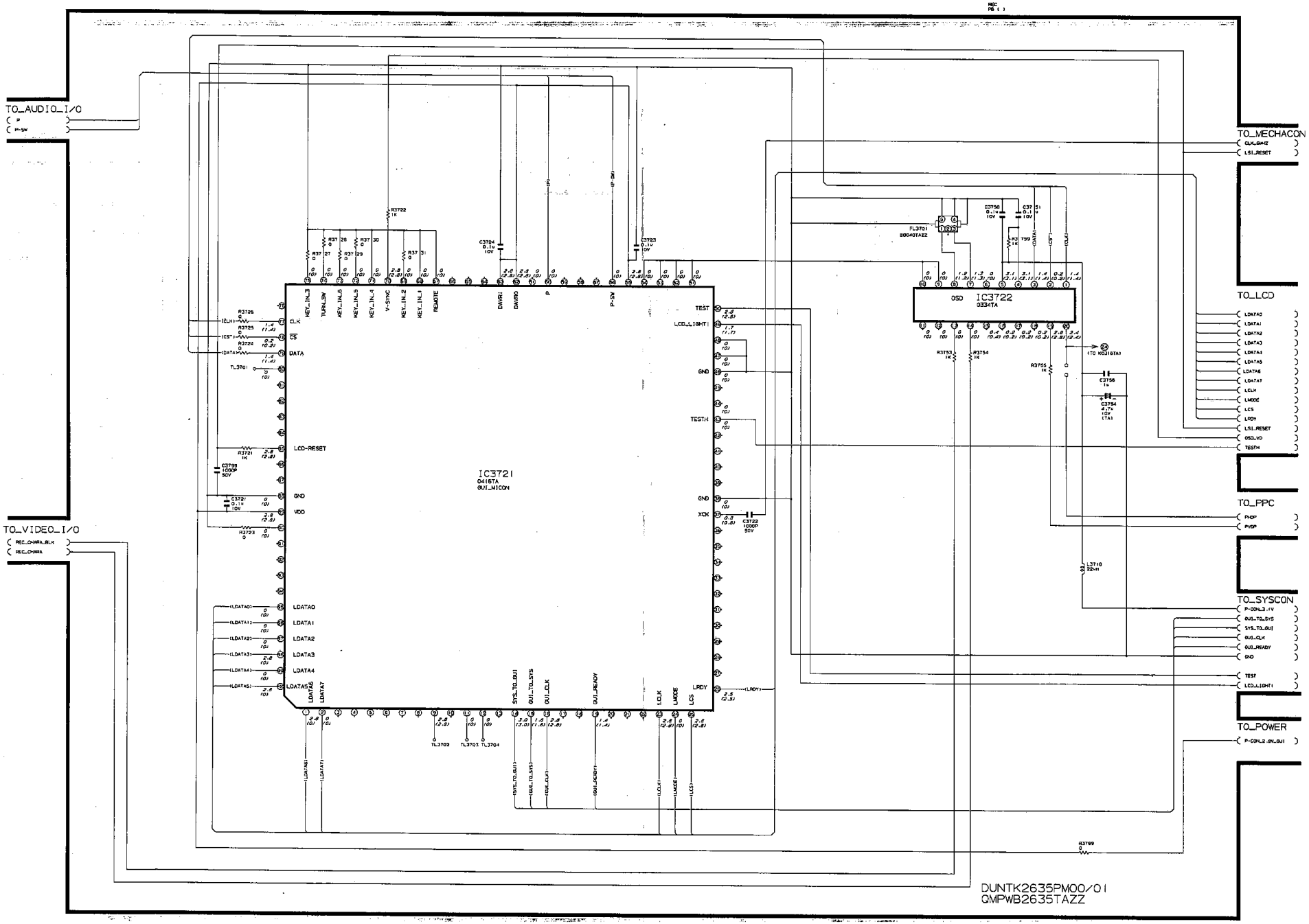
18-4. SYSTEM CONTROLLER CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES SYSTEM-CONTROLLER-SCHALTKREISES 系统控制器电路原理图



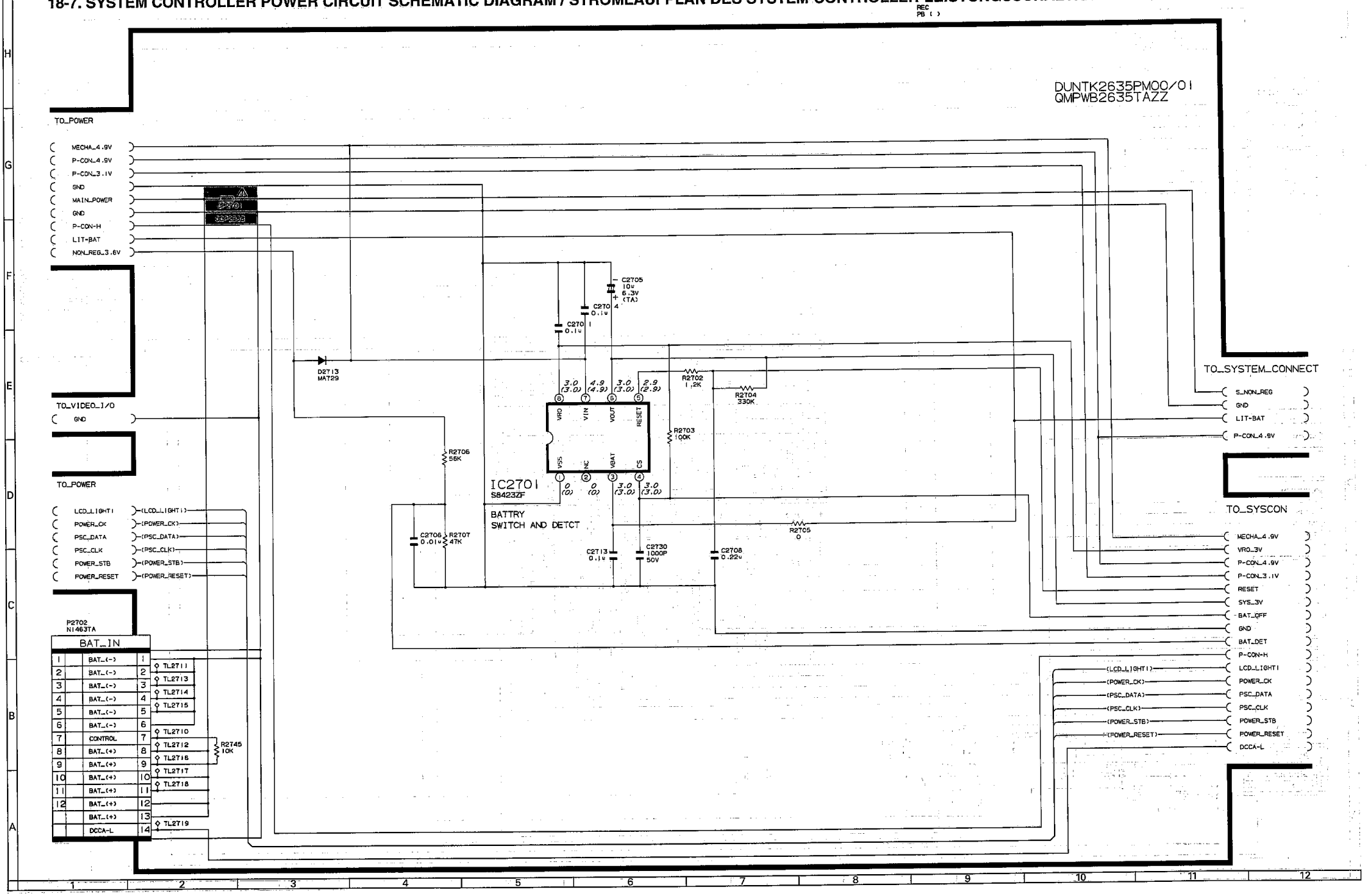
18-5. DAC CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES DAC-SCHALTKREISES 数字一模拟转换器电路原理图



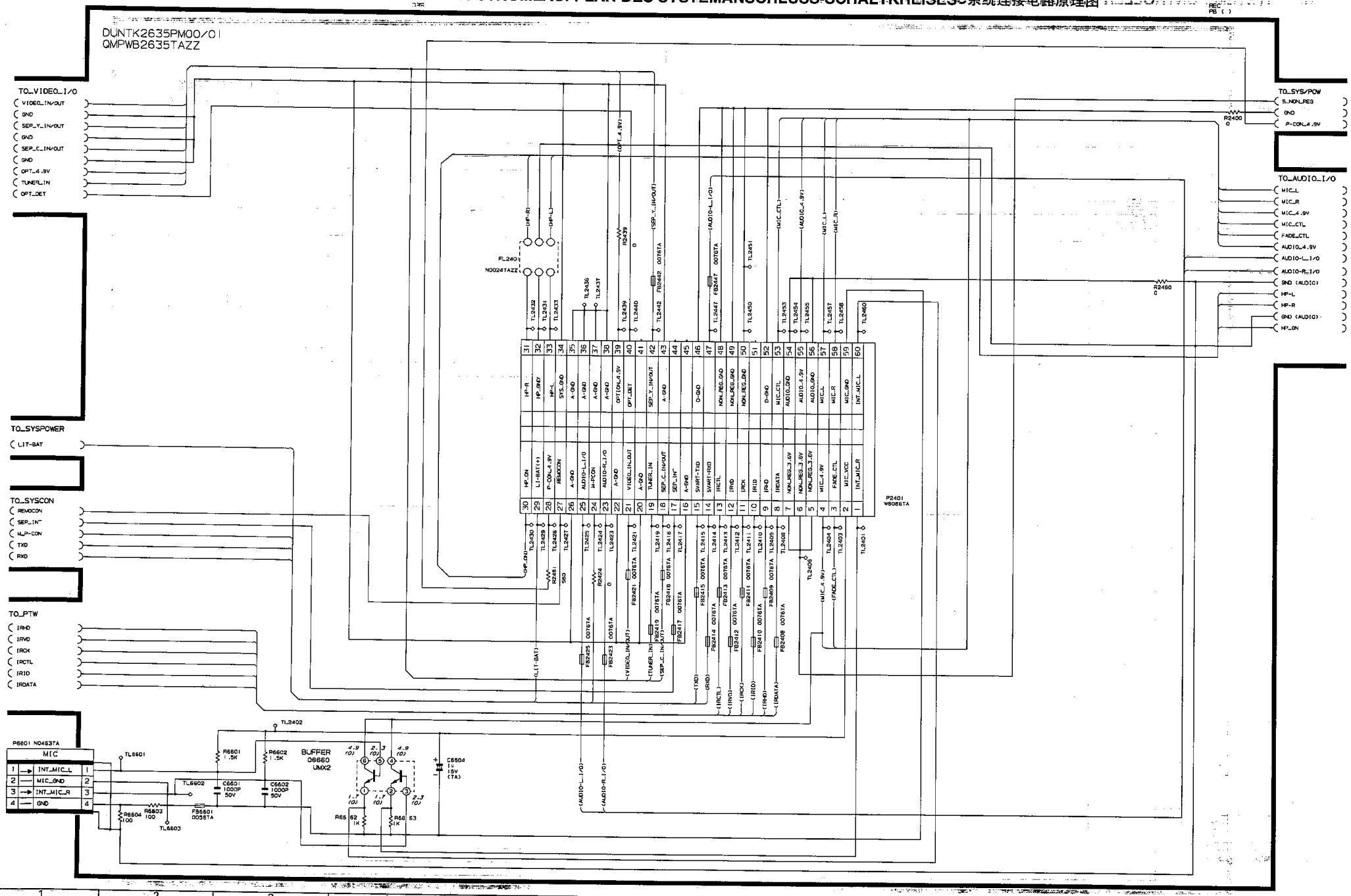
18-6. GUI CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES GUI-SCHALTKREISES GUI电路原理图



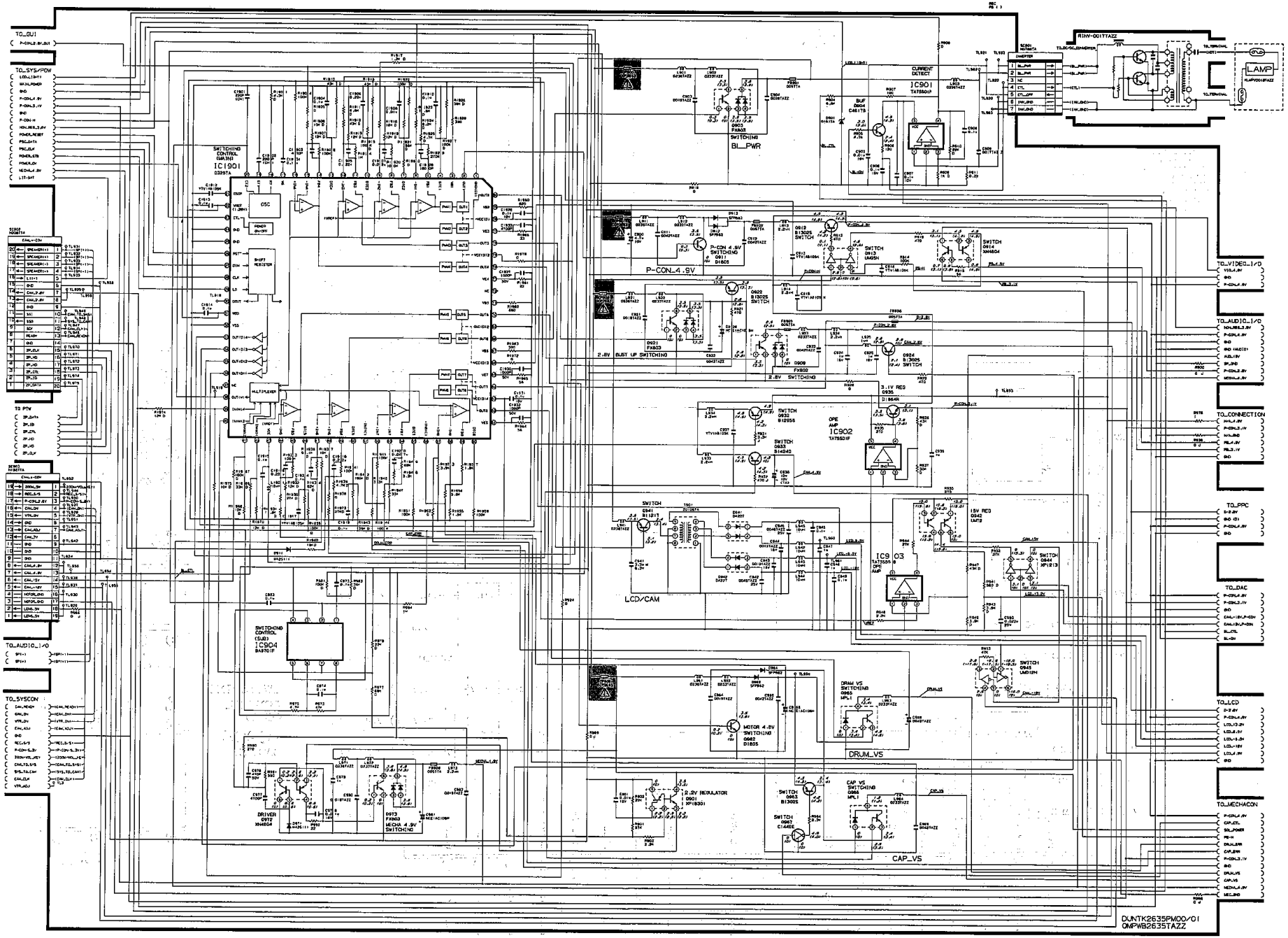
18-7. SYSTEM CONTROLLER POWER CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES SYSTEM-CONTROLLER-LEISTUNGSSCHALTKREISES 系统控制器电源电路原理图



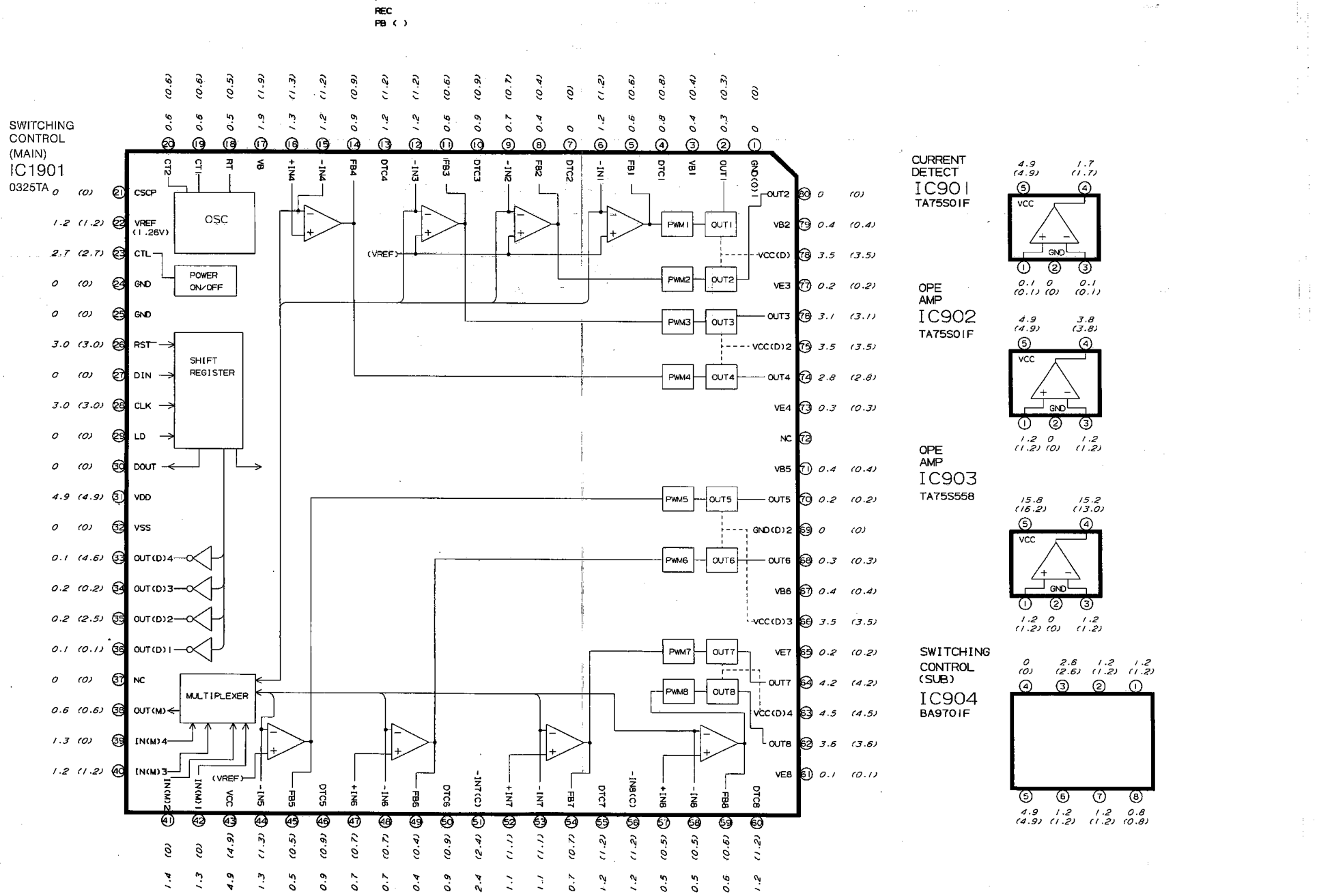
18-8. SYSTEM CONNECT CIRCUIT SCHEMATIC DIAGRAM/ STROMLAUFPLAN DES SYSTEMANSCHLUSS-SCHALTKREISES/ 系统连接电路原理图



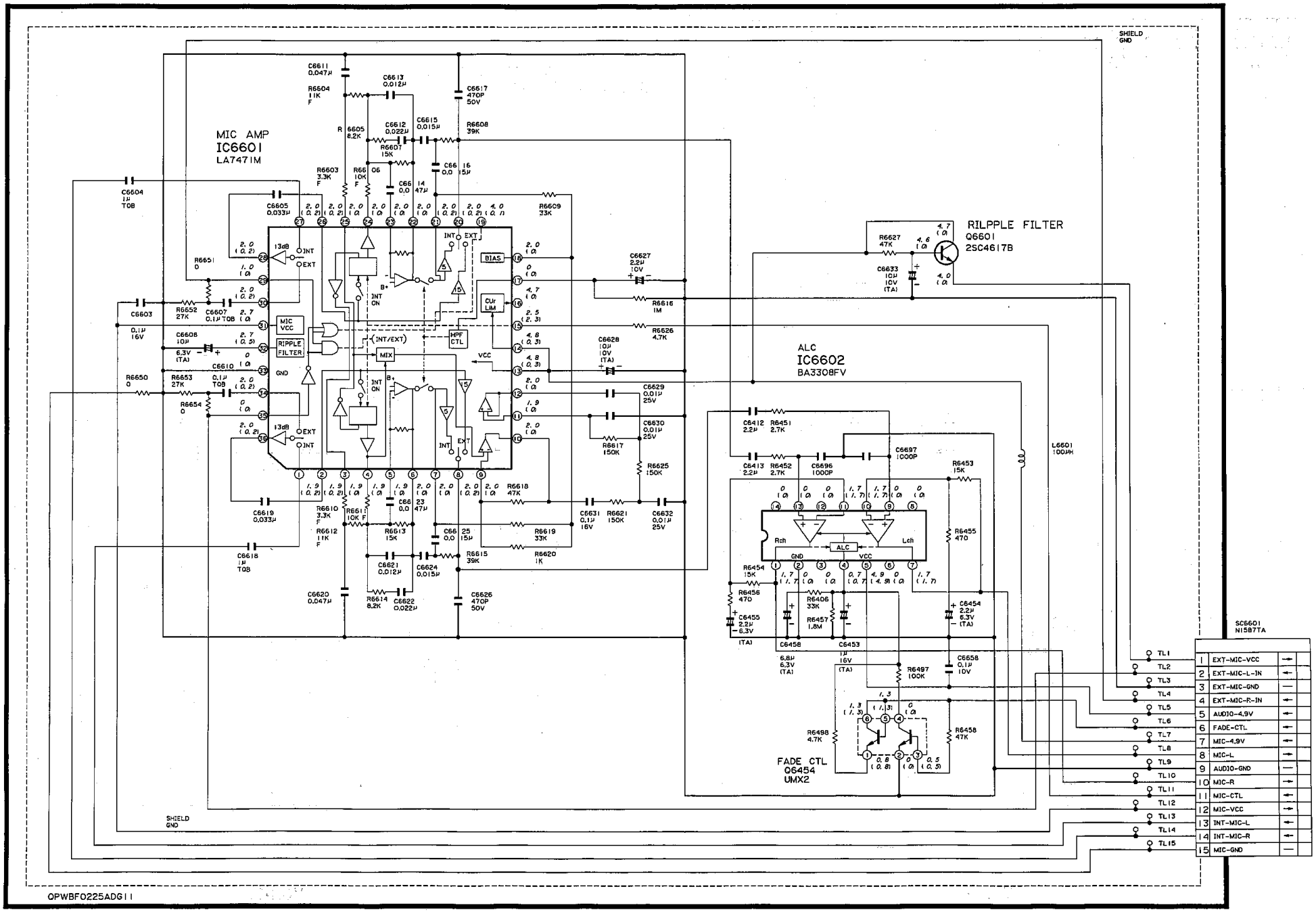
18-9. POWER CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES LEISTUNGSSCHALTKREISES 电源电路原理图



18-10. INTEGRATED SCHEMATIC DIAGRAMS OF POWER CIRCUIT / INTEGRIERTE STROMLAUFPLÄNE DES LEISTUNGSSCHALTKREISES 整体电源电路原理图

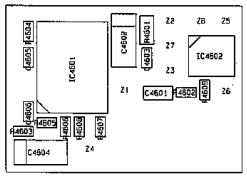


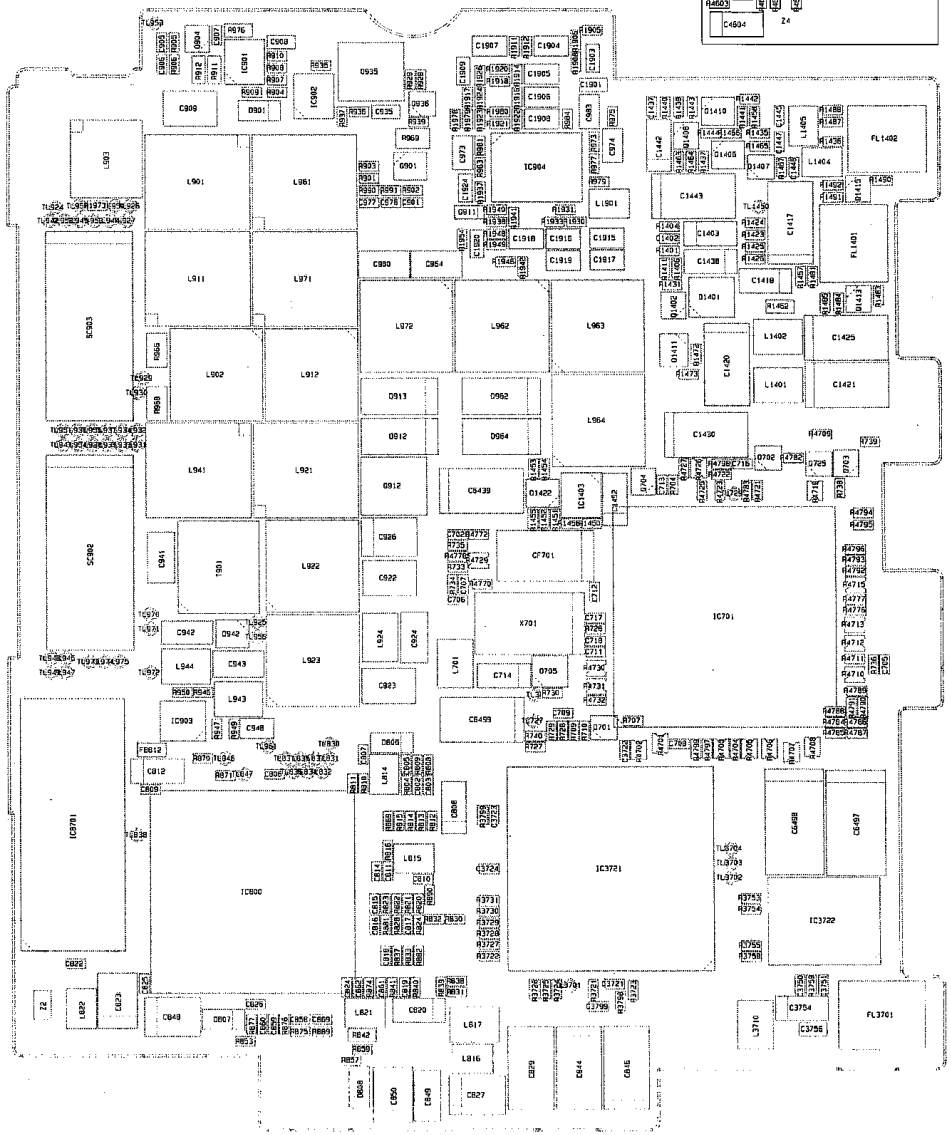
19. MICROPHONE AMPLIFIER CIRCUIT SCHEMATIC DIAGRAM / STROMLAUFPLAN DES MIKROFONVERSTÄRKER-SCHALTKREISES 麦克风放大器电路原理图



20. PRINTED WIRING BOARD ASSEMBBLIES / PLATINEN-EINHEITEN 各印刷电路板的组装件

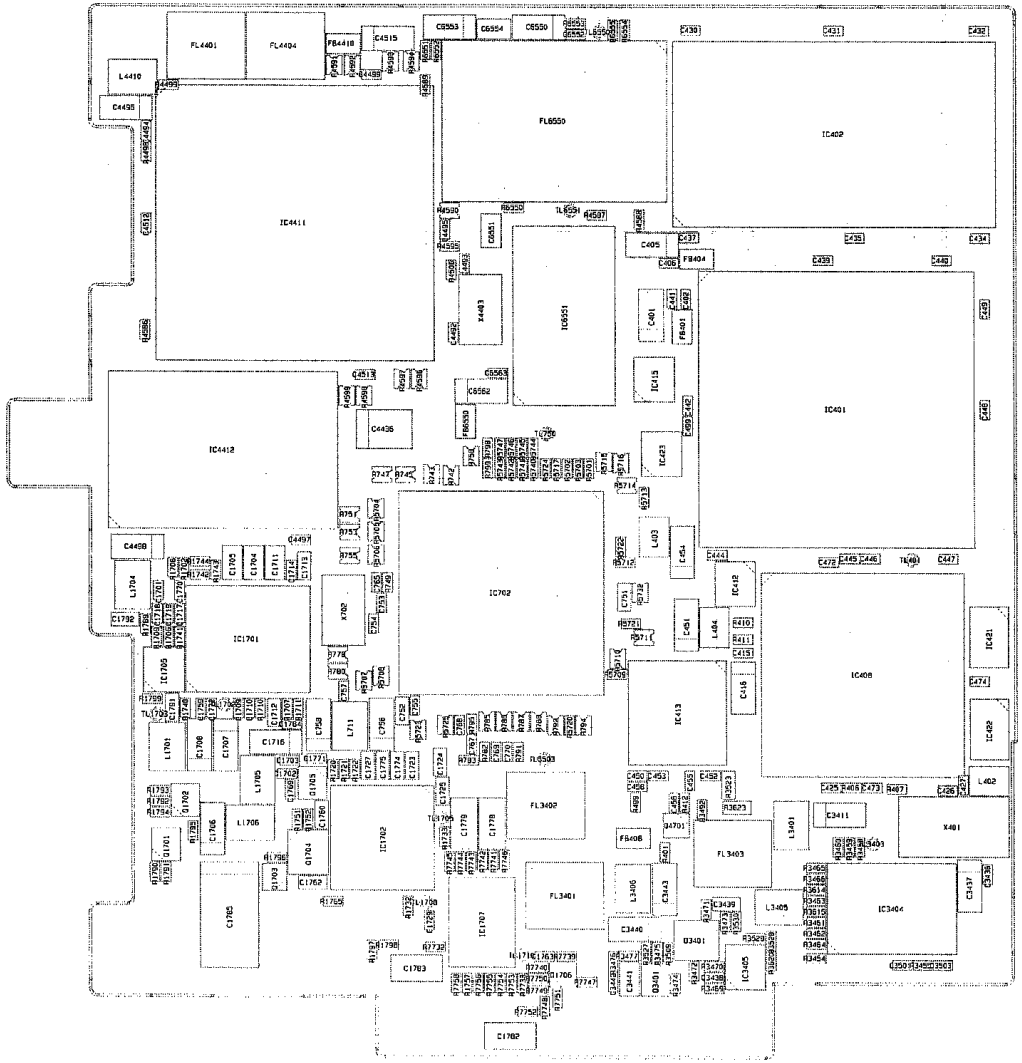
VCR PWB UNIT (SIDE A) / PWB-EINHEIT DES VCR (SEITE A) 录像机用印刷电路板组件(A面)





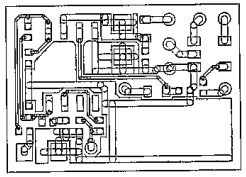
VCR-2

OSD HD GENERATER PWB UNIT / PWB-EINHEIT DES OSD HD-GENERATORS OSD HD信号发生器用印刷电路板组件

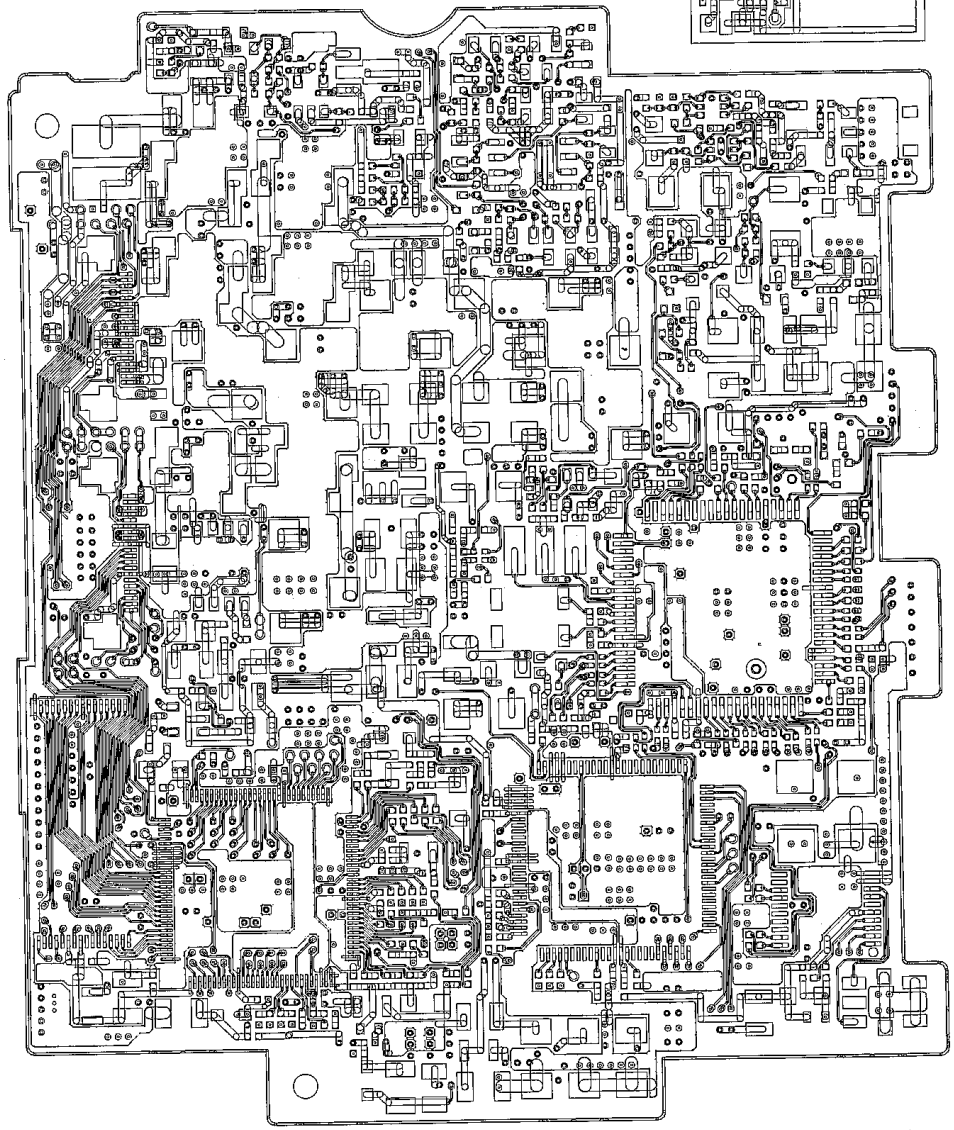


VCR-1

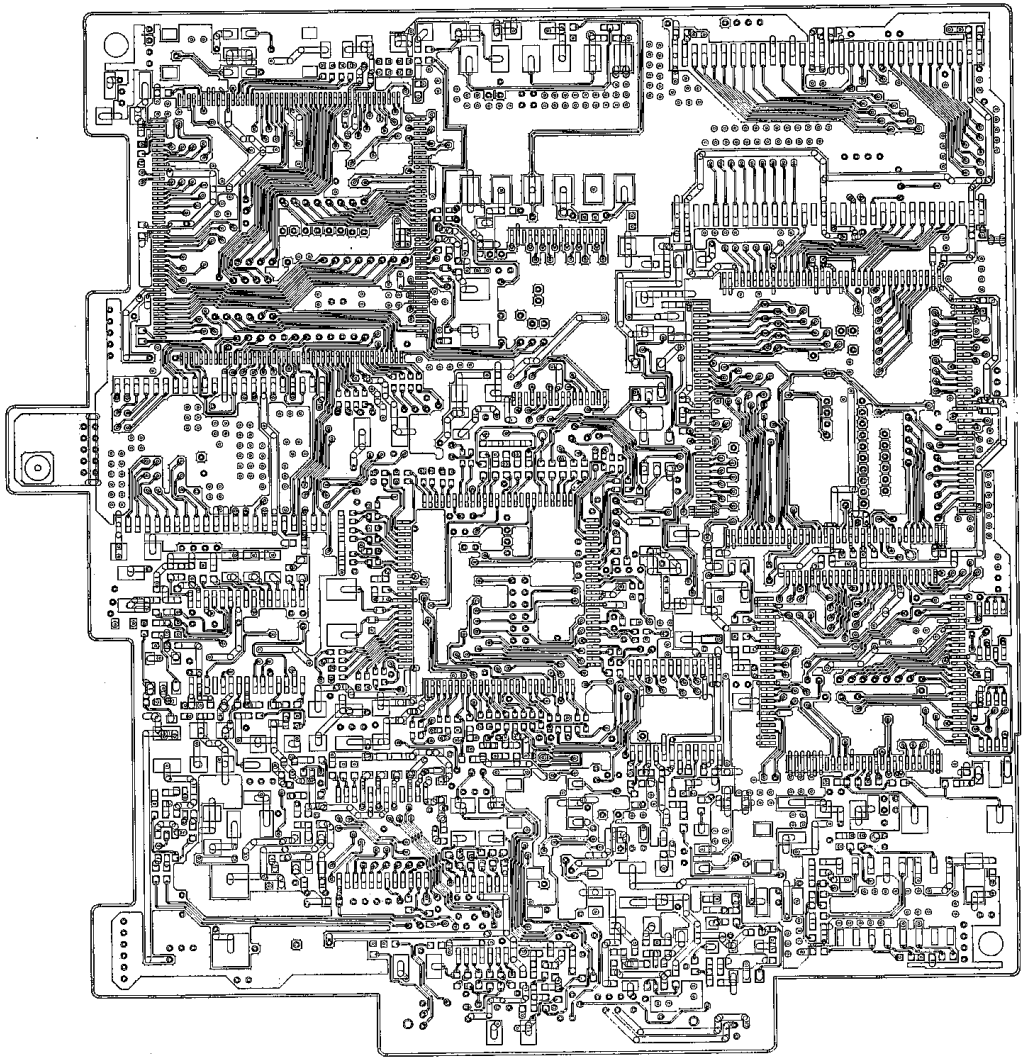
VCR PWB UNIT (SIDE A) / PWB-EINHEIT DES VCR (SEITE A) 录像机用印刷电路板组件（A面）



OSD HD GENERATER PWB UNIT /
PWB-EINHEIT DES OSD HD-GENERATORS
OSD HD信号发生器用印刷电路板组件

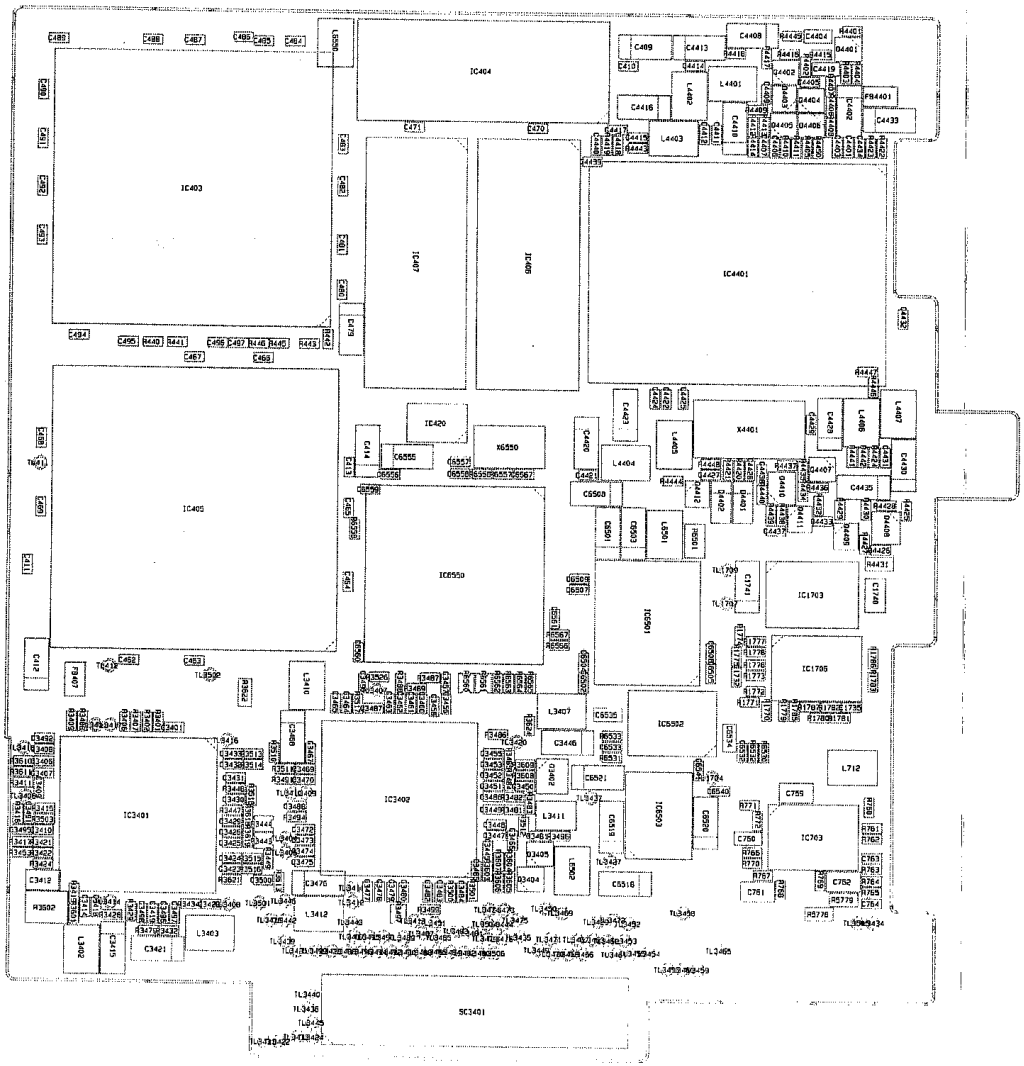


VCR-2

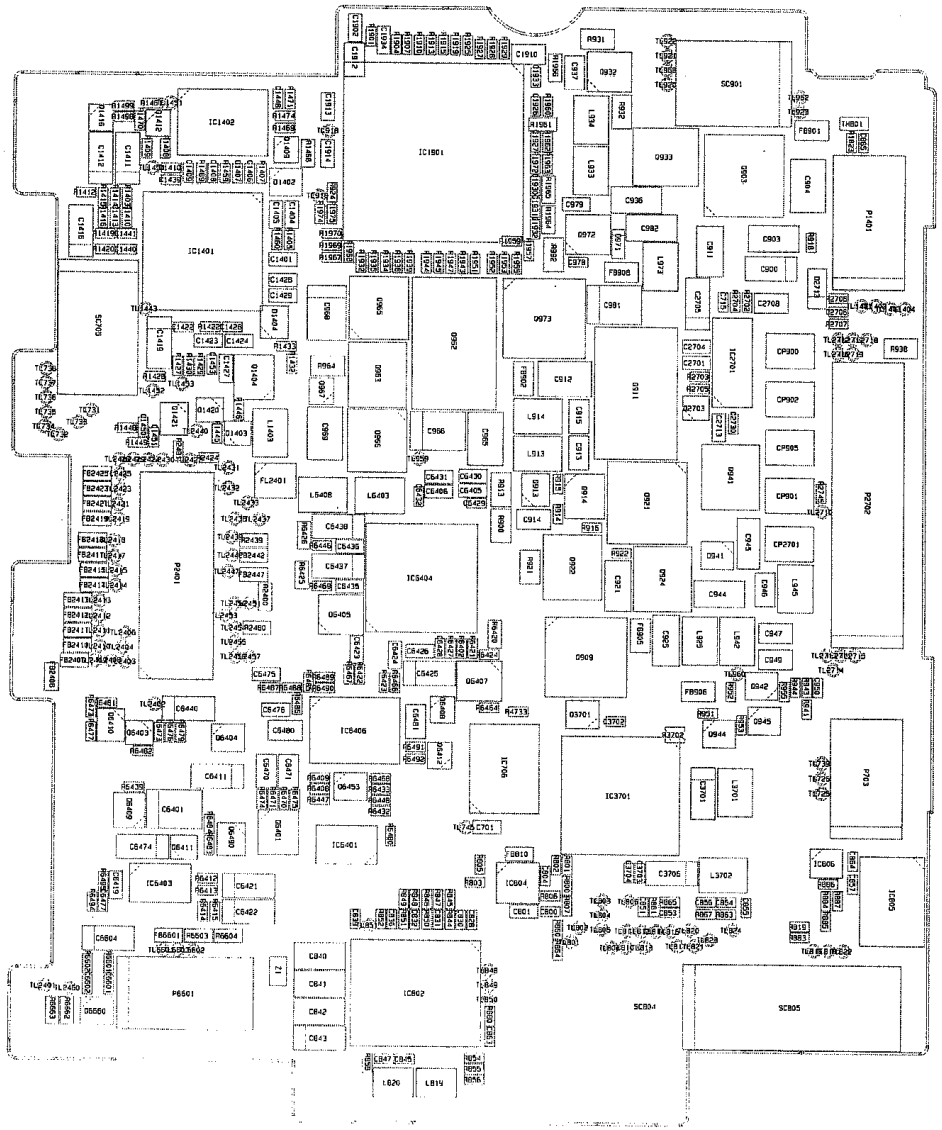


VCR-1

VCR PWB UNIT (SIDE B) / PWB-EINHEIT DES VCR (SEITE B) 录像机用印刷电路板组件(B面)

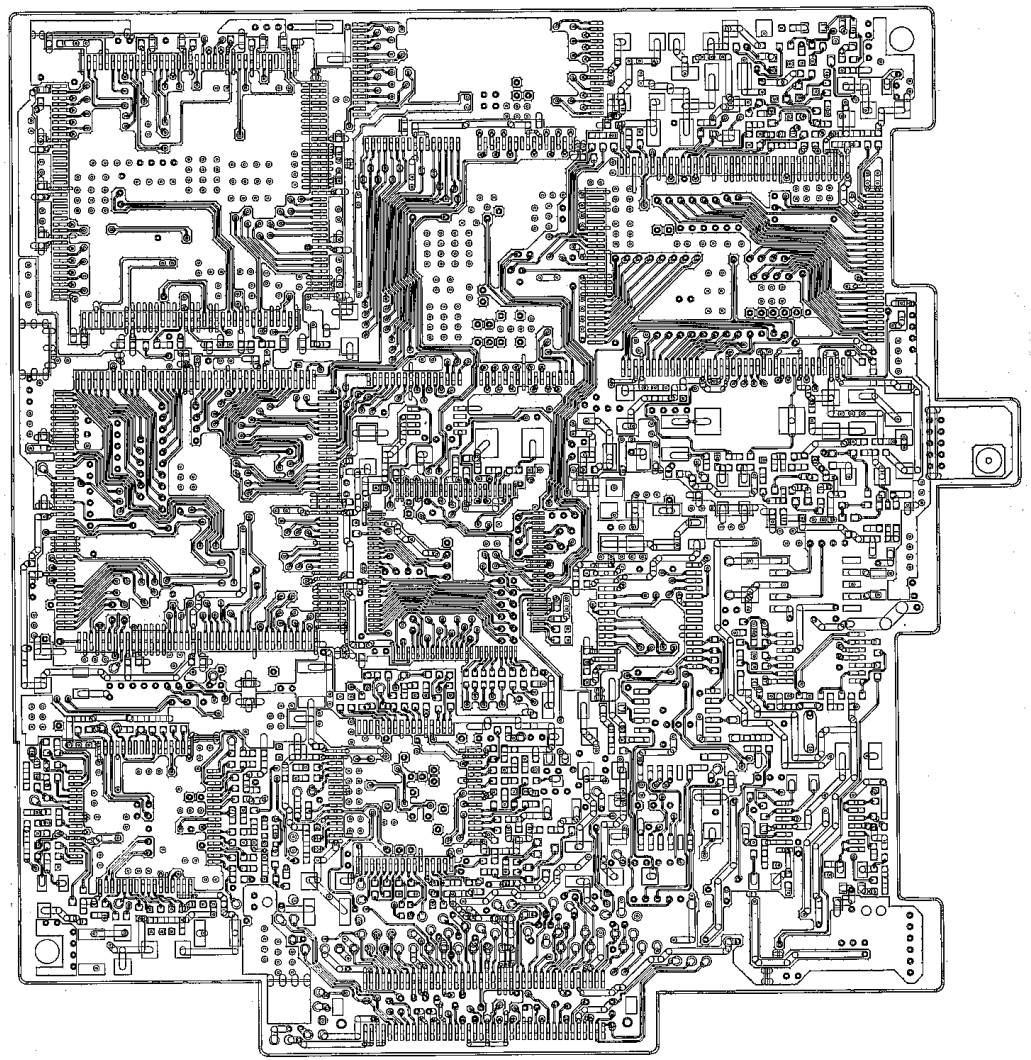


VCR-1

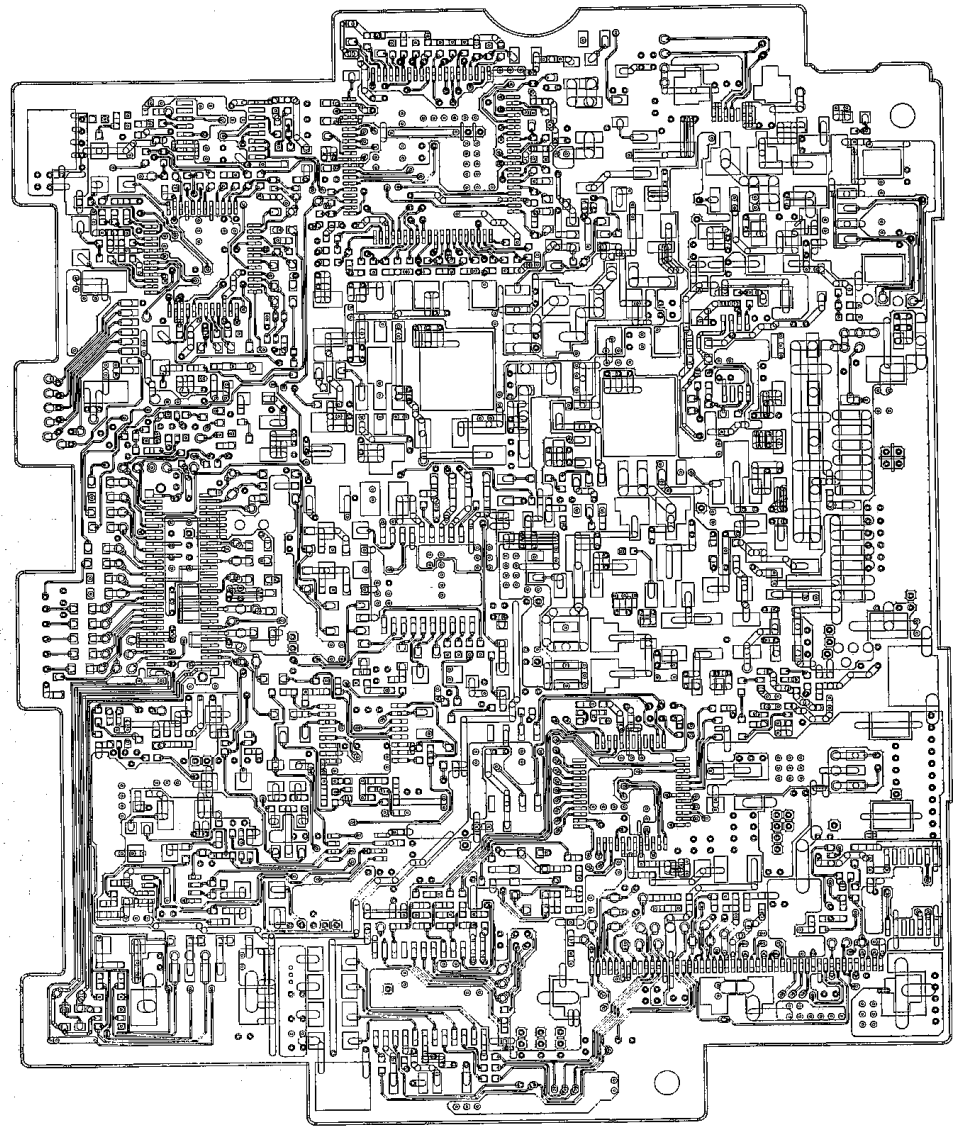


VCR-2

VCR PWB UNIT (SIDE B) / PWB-EINHEIT DES VCR (SEITE B) 录像机用印刷电路板组件（B面）



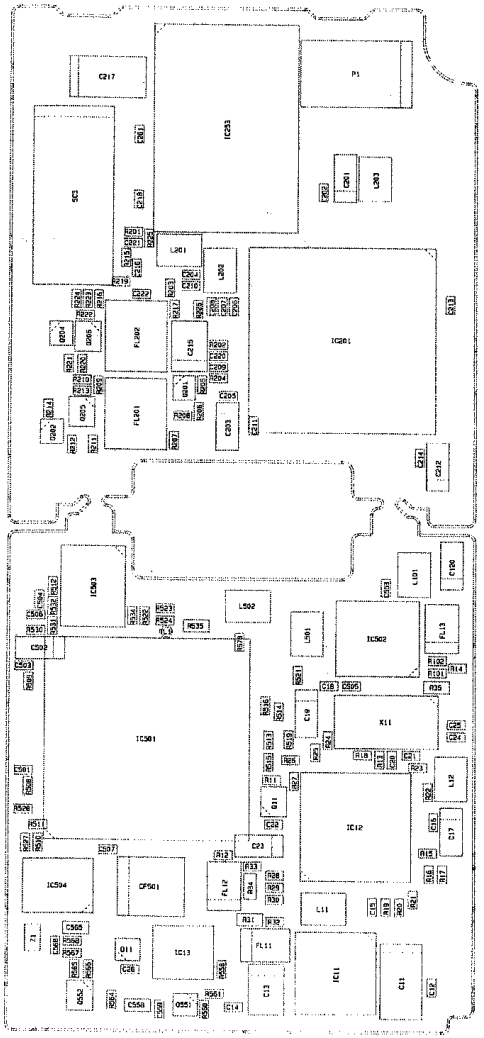
VCR-1

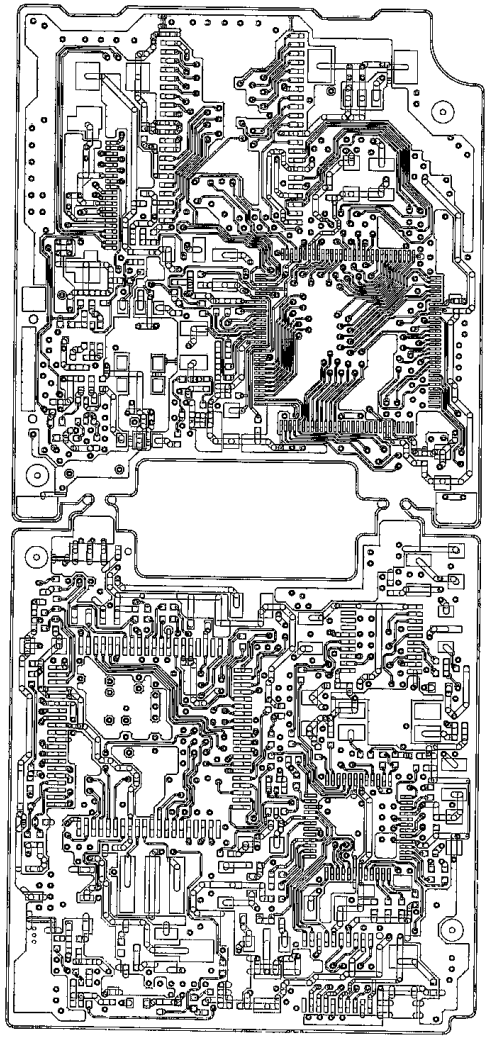


VCR-2

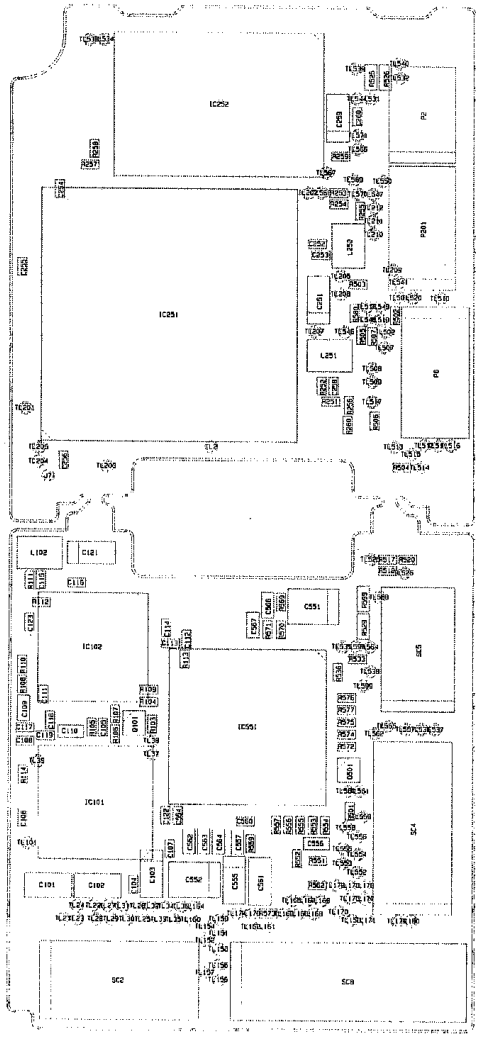
CAMERA PWB UNIT / PWB-EINHEIT DER KAMERA 摄影机用印刷电路板组件

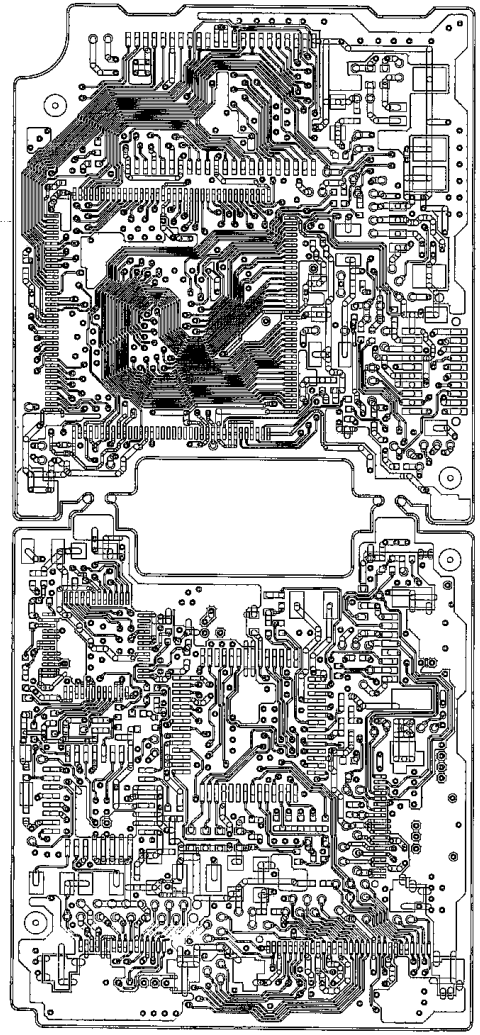
SIDE A





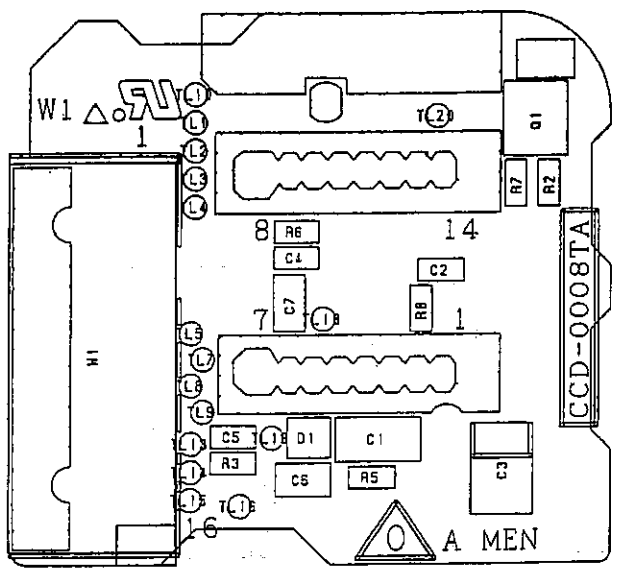
SIDE B

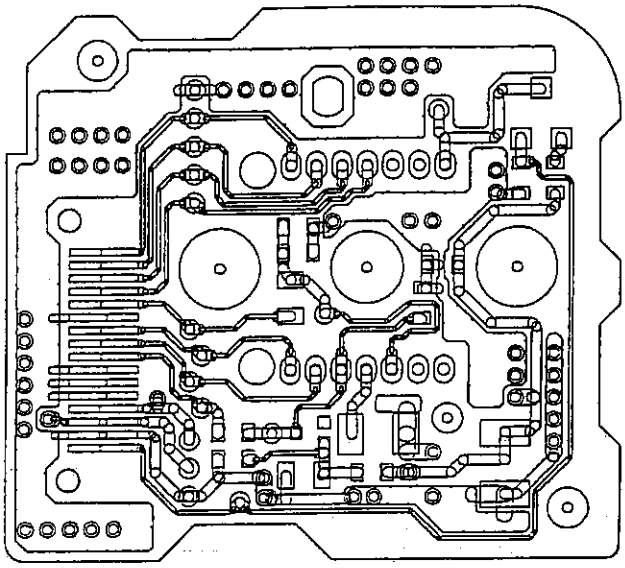




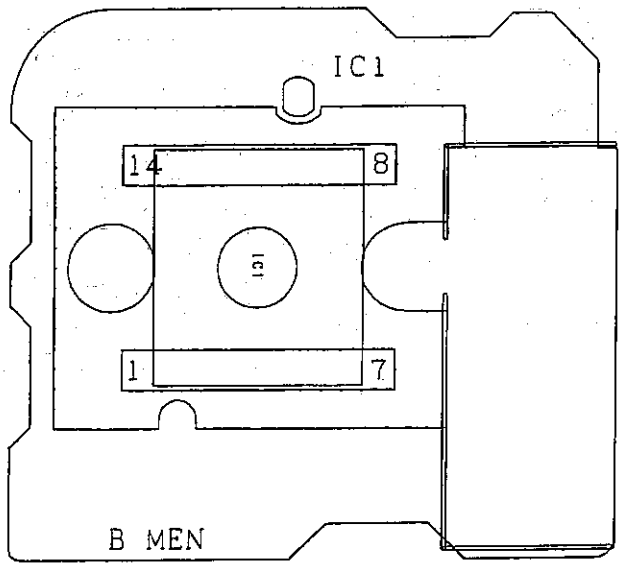
CCD PWB UNIT / PWB-EINHEIT DES CCD CCD用印刷电路板组件

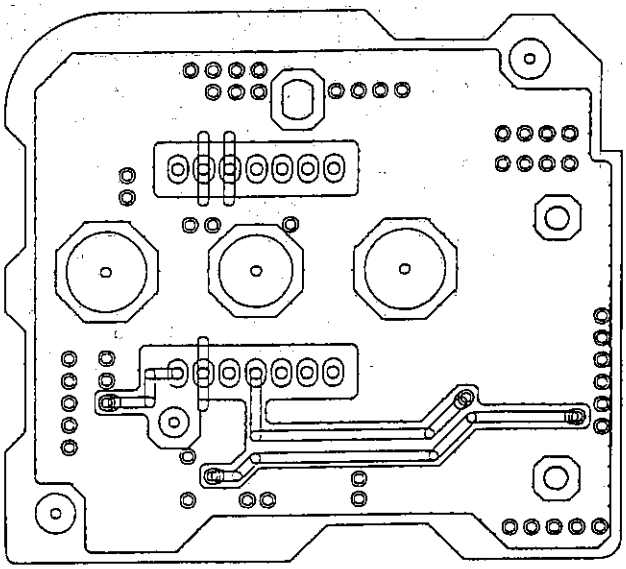
SIDE A





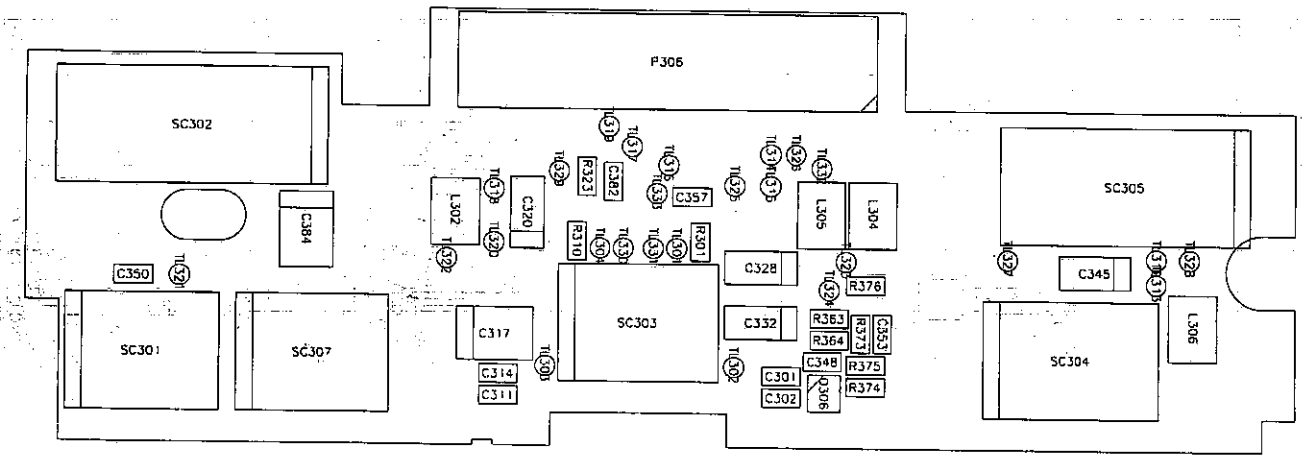
SIDE B

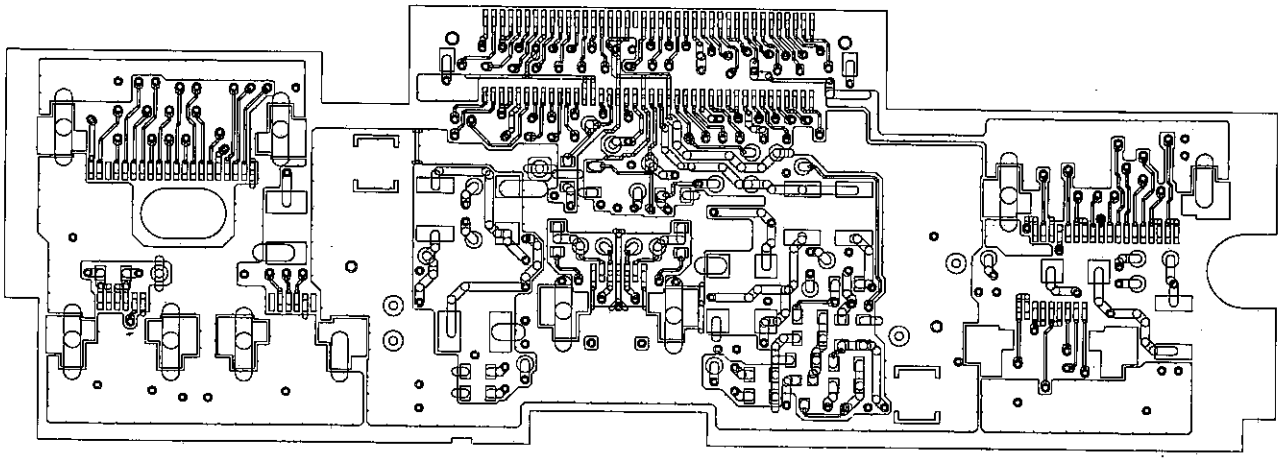




HEAD AMP. PWB UNIT / PWB-EINHEIT DES VORVERSTÄRKERS
摄影机放大器用印刷电路板组件

SIDE A





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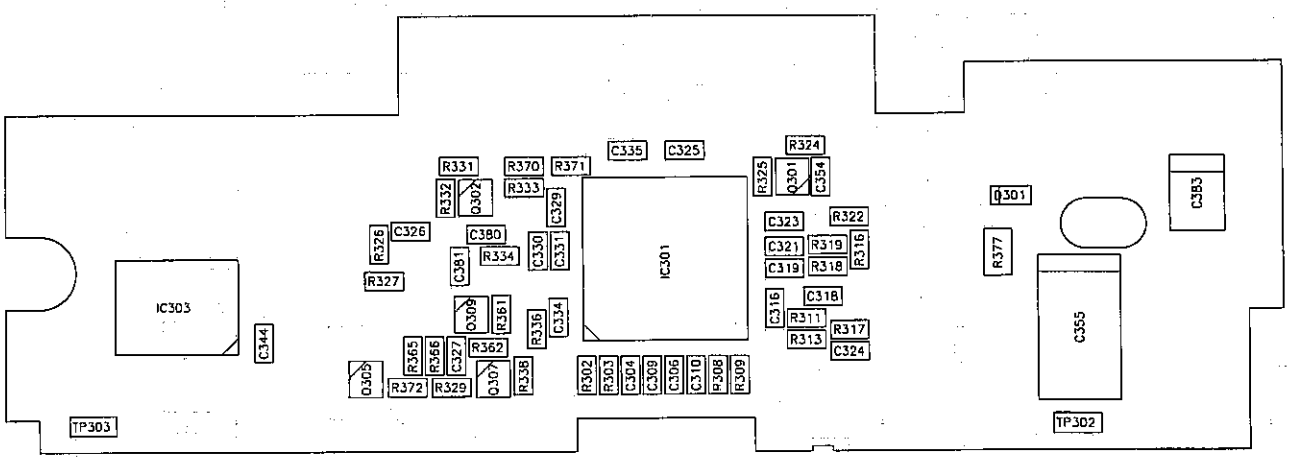
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R331
R332
R333
R334
R336
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R325
R326
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Q305
Q307
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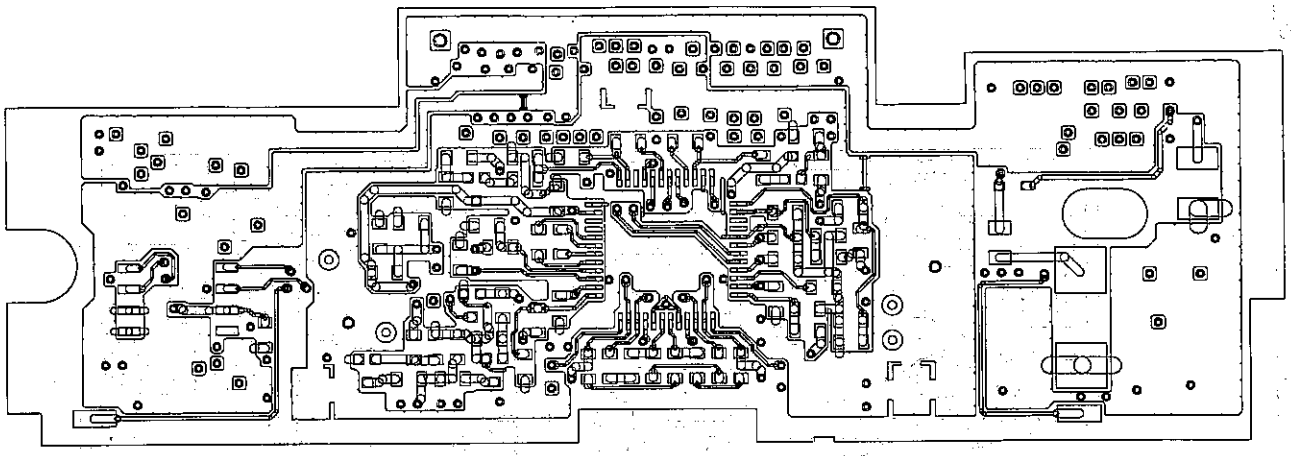
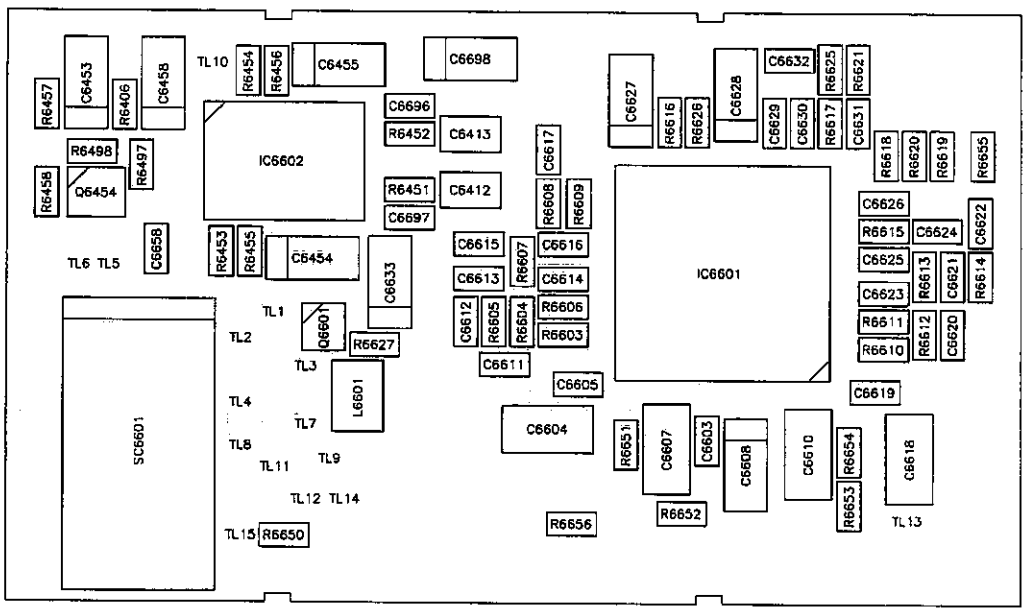
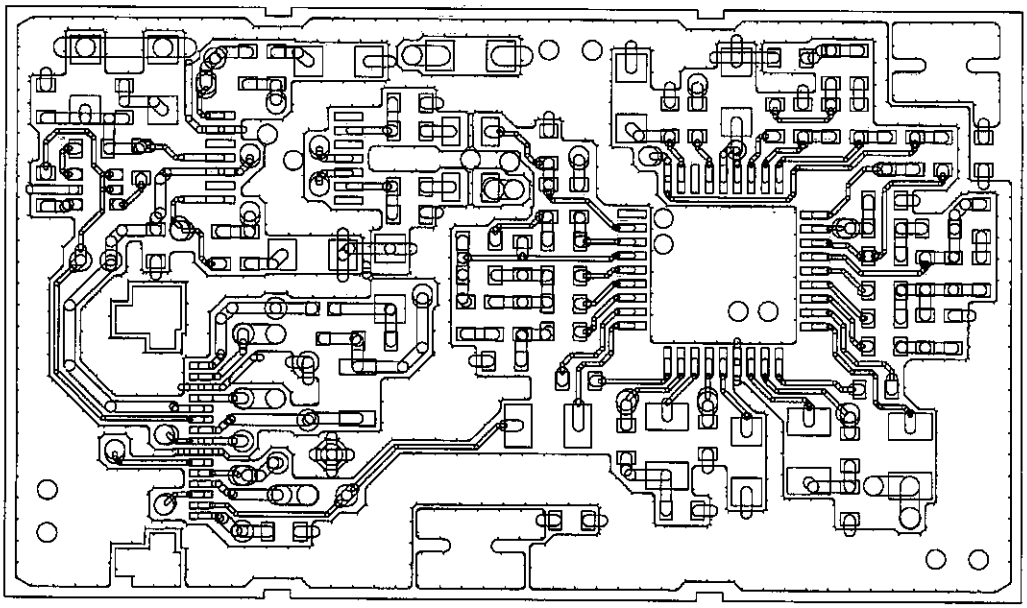
C318
C321
C323
C324
TP303
TP302



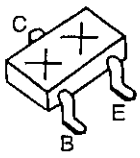
MICROPHONE AMP. PWB UNIT /
PWB-EINHEIT DES MIKROFONVERSTéRKERS
麦克风放大器用印刷电路板组件





21. SEMICONDUCTOR LEAD IDENTIFICATION / IDENTIFIKATION DER HALBLEITER-KABELANSCHLÜSSE

半导体引脚的识别



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2SD2216

2SC4627CD
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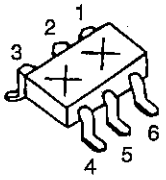
UN9214



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UMT2
UMX2

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XP4311
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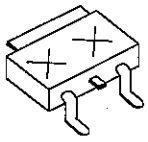

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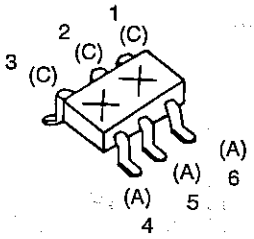

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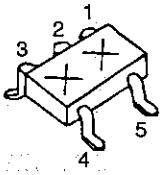

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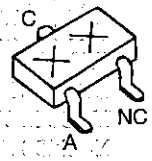

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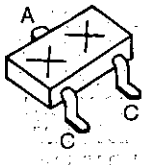

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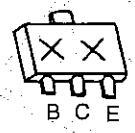

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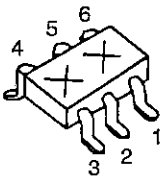

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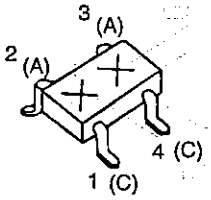

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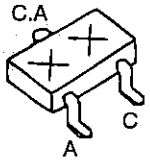

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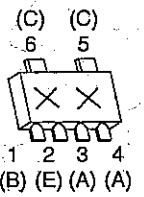

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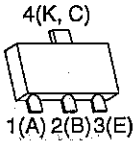
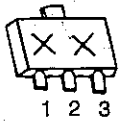
FX803



MPL1



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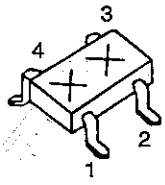

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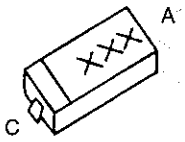

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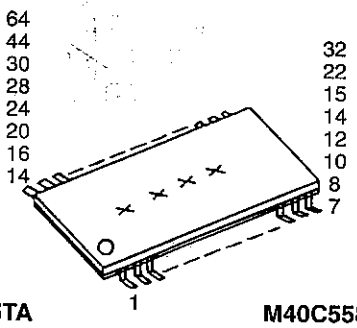

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LB1951V
BU4053V
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M40C558V
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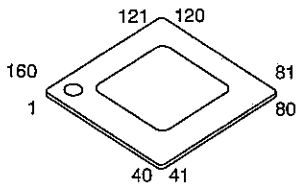
NJM2902V
TA8517



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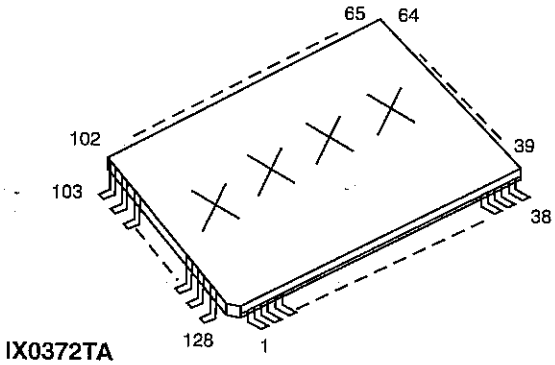

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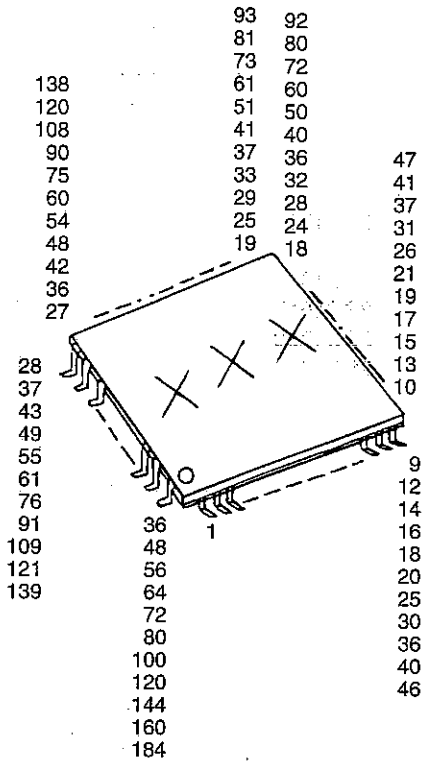

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IX0394TA
IX0322TA
IX0325TA
IX0358TA
IX0369TA
IX0370TA

IX0400TA
IX0409TA
IX0415TA
IX0416TA
IX0419TA
BH7268KV
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BH7272KV

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CXS2310A
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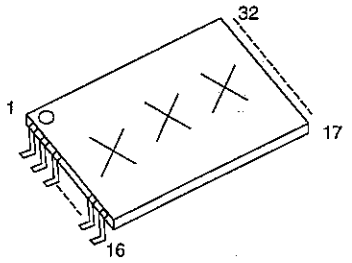

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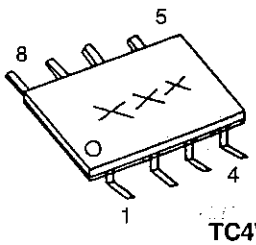

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S24C02A
TA75W558
BA7046F

TC4W66U
TC7W14U
TC7W74U
XL93L46F

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by "⚠" in the Replacement Parts Lists.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION
5. CODE
6. QUANTITY

MARK ★: SPARE PARTS-DELIVERY SECTION

ERSATZTEILLISTE

AUSTAUSCH VON TEILEN

Ersatzteile, die besondere Sicherheitseigenschften haben, sind in dieser Anleitung markiert. Elektrische Komponenten mit solchen Eigenshaften sind in den Ersatzteil durch "⚠" gekenn-zeichnet.
Der Gebrauch von Ersatzteilen, die nicht deselben Sicherheits-eigenschaften haben wie die vom Hersteller empfohlenen ud in der Bedienungsanleitung angegebenen, können zur Ursache von Blitzeinschlägen, Bränden und anderen Gefahren werden.

"WIE MAN ERSATSTEILE BESTELLT"

Damit Ihre Bestellung promt und korrekt ausgeführt wird, geben Sie bitte folgende Informationen.

1. MODELL NR.
2. REF. NR.
3. ERSATZTEIL NR.
4. BESCHREIBUNG
5. KODE
6. QUANTITÄT

MARKIERUNG ★: ERSATZTEILE-LIEFERUNG

更换零件表

更换零件

本维修说明书对具有特别安全要求的零件均用标记加以识别：在此更换零件表中，具有特别安全要求的电路元件均用⚠标记以便注意识别。更换零件时，为了用户的安全以及电视机原有的工作性能，务请使用夏普规定零件。否则，可能有导致触电、火灾或其他不测事故发生的可能。

更换零件的订货方法

为了能迅速而确实地接受订货、以及正确无误地按时交货，在订货时请将下列各项明确告知。

1. 型号
2. 参考编号
3. 零件编号
4. 零件名称
5. 代号
6. 数量

附★：记号为备用部件的交货部门

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

	DUNTK2632QA02	–	Camer PWB Unit (VL-DC1E)	—
	DUNTK2632QA01	–	Camer PWB Unit (VL-DC1H/S)	—
	DUNTK2635QA01	–	VCR PWB Unit (VL-DC1E)	—
	DUNTK2635QA00	–	VCR PWB Unit (VL-DC1H/S)	—
	RAMP-0015TAN0	–	Head Amp. PWB Unit	—
	RAMP-0016TAN0	–	Microphone Amp. PWB Unit	—
	RCCD-0008TAN2	–	CCD PWB Unit	—

DUNTK2632QA02/01 CAMERA PWB UNIT

INTEGRATED CIRCUITS

IC11	VHiUPD16510-1	J	V-Driver	AR
IC12	VHiLR38511/-1	J	Timing Generator	AQ
IC13	VHiNJM79L091E	J	–9V Voltage Regulator	AE
IC101	VHiCXA2006Q-1	J	Corrected Double Sampling Video Amp., for AGC	AV
IC102	VHiCXD2310A-1	J	10-bit High-Speed Analog-to-Digital Converter	AV
IC201	RH-iX0323TAZZ	J	Digital Signal Processor HG51D266TE	BF
IC251	RH-iX0394TAZZ	J	Electric Zoom Emage Stabilizer	BB
IC252	VHiMS548331-1	J	Field Memory	BD
IC253	VHiMS548331-1	J	Field Memory	BD
IC501	RH-iX0400TAZZ	J	Microprocessor	AY
IC502	VHiMB8346BV-1	J	8-bit Digital-to-Analog Converter	AN
IC503	VHiS24C02A/-1	J	EEPROM	AK
IC504	VHiPST592KM-1	J	Watching Power Reset	AF
IC551	VHiMM1299XQ-1	J	Lens Driver	AV

TRANSISTORS

Q11	VSUMX2/////-1	J	3.6V Voltage Regulator	AB
Q101	VS2SC4617B/-1	J	Buffer	AA
Q201	VS2SC4617B/-1	J	Buffer	AA
Q202	VS2SC4617B/-1	J	Buffer	AA
Q204	VS2SC4617B/-1	J	Buffer	AA
Q205	VSUMZ1/////-1	J	Amplifier	AB
Q206	VSUMZ1/////-1	J	Amplifier	AB
Q551	VS2SC4617B/-1	J	Iris Meter Driver	AA
Q552	VSUMT2/////-1	J	Hall Device Regulator	AB

DIODES

D11	VHDDA121///-1	J	Diode DA121	AA
D501	VHDDA121///-1	J	Diode DA121	AA

DUNTK2632QA02/01
CAMERA PWB UNIT (Continued)

PACKAGED CIRCUIT

Ref. No.	Part No.	★	Description	Code
X11	RCRSZ0028TAZZ	J	Crystal	AQ

COIL AND TRANSFORMERS

Ref. No.	Part No.	★	Description	Code
CF501	RFiLC0060TAZZ	J	Ceramic Filter	AF
FL13	RFiLN0002TAZZ	J	Filter	AF
FL201	RCiLF0347TAZZ	J	Filter	AL
FL202	RCiLF0353TAZZ	J	Filter	AK
L11	VPAXM470K1R7N	J	Peaking Coil 47µH	AC
L12	VPAXM100KR42N	J	Peaking Coil 10µH	AC
L101	VPAXM100KR42N	J	Peaking Coil 10µH	AC
L102	VPAXM470K1R7N	J	Peaking Coil 47µH	AC
L201	VPAXM100KR42N	J	Peaking Coil 10µH	AC
L202	VPAXM470K1R7N	J	Peaking Coil 47µH	AC
L203	VPAXM100KR42N	J	Peaking Coil 10µH	AC
L251	VPAXM100KR42N	J	Peaking Coil 10µH	AC
L252	VPAXM100KR42N	J	Peaking Coil 10µH	AC
L501	VPAXM100KR42N	J	Peaking Coil 10µH	AC
L502	VPAXM100KR42N	J	Peaking Coil 10µH	AC

CAPACITORS

Ref. No.	Part No.	★				Code
C11	VCSATC1VJ685M	J	6.8	35V	Tantalum	AF
C12	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C13	VCSATE1DJ475M	J	4.7	20V	Tantalum	AD
C14	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C15	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C16	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C17	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C18	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C19	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C20	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C21	VCCCCZ1HH6R0D	J	6p	50V	Ceramic	AA
C22	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C23	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C24	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C25	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C26	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C101	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C102	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C103	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C104	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C105	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C106	VCKYCZ1EF223Z	J	0.022	25V	Ceramic	AB
C107	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C108	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C109	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C110	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C111	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C113	VCCCCZ1HH470J	J	47p	50V	Ceramic	AB
C114	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C115	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C116	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C120	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C121	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C122	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C201	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C202	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C203	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C204	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C205	VCKYCZ1HB222K	J	2200p	50V	Ceramic	AB
C206	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C207	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C208	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C209	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C210	VCKYCZ1HB222K	J	2200p	50V	Ceramic	AB
C211	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C212	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C213	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C214	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C215	VCSATE1AJ226M	J	22	10V	Tantalum	AD
C216	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C217	VCSATC1AJ476M	J	47	10V	Tantalum	AE
C218	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C220	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C221	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C251	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C252	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C253	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C254	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C255	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C256	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C258	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C259	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C260	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C261	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C501	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C502	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C503	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C504	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C505	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C506	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C551	VCSATE1AJ156M	J	15	10V	Tantalum	AD
C552	VCSATE1AJ156M	J	15	10V	Tantalum	AD
C553	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C554	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C555	VCSATA1AJ475M	J	4.7	10V	Tantalum	AC
C556	VCKYCY1CB333K	J	0.033	16V	Ceramic	AA
C557	VCKYCY1CF224Z	J	0.22	16V	Ceramic	AA
C558	VCKYCY1HB122K	J	1200p	50V	Ceramic	AA
C559	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C560	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C561	VCSATA1AJ475M	J	4.7	10V	Tantalum	AC
C562	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C563	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C564	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C565	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C566	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C567	VCKYCY1EB183K	J	0.018	25V	Ceramic	AA
C568	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB

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CAMERA PWB UNIT (Continued)

RESISTORS

Ref. No.	Part No.	★	Description			Code
R11	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R12	VRS-CZ1JF183J	J	18k	1/16W	Metal Oxide	AA
R13	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R14	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R15	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R16	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R17	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R18	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R21	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R31	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R34	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R101	VRS-CZ1JF153D	J	15k	1/16W	Metal Oxide	AB
R102	VRS-CZ1JF244F	J	240k	1/16W	Metal Oxide	AA
R103	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R104	VRS-CZ1JF122J	J	1.2k	1/16W	Metal Oxide	AA
R105	VRS-CZ1JF682J	J	6.8k	1/16W	Metal Oxide	AA
R106	VRS-CZ1JF393J	J	39k	1/16W	Metal Oxide	AA
R107	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R108	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R109	VRS-CZ1JF220J	J	22	1/16W	Metal Oxide	AA
R110	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R114	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R201	VRS-CZ1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R202	VRS-CZ1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R203	VRS-CZ1JF331J	J	330	1/16W	Metal Oxide	AA
R204	VRS-CZ1JF391J	J	390	1/16W	Metal Oxide	AA
R205	VRS-CZ1JF562J	J	5.6k	1/16W	Metal Oxide	AA
R206	VRS-CZ1JF683J	J	68k	1/16W	Metal Oxide	AA
R207	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R208	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R209	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R210	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R211	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R212	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R213	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R214	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R215	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R216	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R217	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R219	VRS-CZ1JF122J	J	1.2k	1/16W	Metal Oxide	AA
R220	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R221	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R222	VRS-CZ1JF272J	J	2.7k	1/16W	Metal Oxide	AA
R223	VRS-CZ1JF821J	J	820	1/16W	Metal Oxide	AA
R224	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R225	VRS-CZ1JF683J	J	68k	1/16W	Metal Oxide	AA
R226	VRS-CZ1JF683J	J	68k	1/16W	Metal Oxide	AA
R227	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R251	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R253	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R254	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R255	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R256	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R257	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R258	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R259	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R260	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R502	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R503	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R504	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R505	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R506	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R507	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R508	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R509	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R510	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R512	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R513	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R514	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R515	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R516	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R517	VRS-CZ1JF224J	J	220k	1/16W	Metal Oxide	AA
R518	VRS-CZ1JF224J	J	220k	1/16W	Metal Oxide	AA
R519	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R520	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R521	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R522	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R523	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R524	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R525	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R526	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R528	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R529	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R530	VRS-CZ1JF103J	J	10k (VL-DC1E)	1/16W	Metal Oxide	AA
R531	VRS-CZ1JF103J	J	10k (VL-DC1H/S)	1/16W	Metal Oxide	AA
R532	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R533	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R534	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R535	VRS-CY1JF223J	J	22k	1/16W	Metal Oxide	AA
R536	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R551	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R552	VRS-CZ1JF332J	J	3.3k	1/16W	Metal Oxide	AA
R553	VRS-CZ1JF682J	J	6.8k	1/16W	Metal Oxide	AA
R554	VRS-CZ1JF682J	J	6.8k	1/16W	Metal Oxide	AA
R555	VRS-CZ1JF153D	J	15k	1/16W	Metal Oxide	AB
R556	VRS-CZ1JF244F	J	240k	1/16W	Metal Oxide	AA
R557	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R558	VRS-CZ1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R559	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R560	VRS-CZ1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R561	VRS-CZ1JF180J	J	18	1/16W	Metal Oxide	AA
R562	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R564	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R565	VRS-CZ1JF121J	J	120	1/16W	Metal Oxide	AA
R566	VRS-CZ1JF121J	J	120	1/16W	Metal Oxide	AA
R567	VRS-CZ1JF103D	J	10k	1/16W	Metal Oxide	AB

Ref. No.	Part No.	★	Description	Code

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CAMERA PWB UNIT (Continued)

R568	VRS-CZ1JF103D	J	10k	1/16W	Metal Oxide	AB
R569	VRS-CZ1JF104D	J	100k	1/16W	Metal Oxide	AB
R570	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R571	VRS-CZ1JF473D	J	47k	1/16W	Metal Oxide	AB
R578	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R580	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R599	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

P1	QPLGN0363TAZZ	J	Plug 3-pin	AC
P2	QPLGN0263TAZZ	J	Plug 2-pin	AB
P6	QCNCM2052TAZZ	J	Connector 20-pin	AE
P201	QPLGN0463TAZZ	J	Plug 4-pin	AC
SC2	QSOCN1687TAZZ	J	Socket 16-pin	AD
SC3	QSOCN2087TAZZ	J	Socket 20-pin	AE
SC4	QSOCN1987TAZZ	J	Socket 19-pin	AE
SC5	QSOCN0860TAZZ	J	Socket 8-pin	AE
SC8	QSOCN3087TAZZ	J	Socket 30-pin	AF
SLD1	PSLDM3243TAFW	J	Camera Shield-A	AE
SLD2	PSLDM3244TAFW	J	Camera Shield-B	AD

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INTEGRATED CIRCUITS

IC401	RH-iX0407TAZZ	J	Shuffling Discrete Cosine Transform	BL
IC402	RH-iX0265TAZZ	J	Shuffling Memory LH6V5160N	BN
IC403	RH-iX0370TAZZ	J	Compression Expansion	BL
IC404	RH-iX0391TAZZ	J	External Memory	BC
IC405	RH-iX0357TAZZ	J	Transport 1	BL
IC406	RH-iX0391TAZZ	J	External Memory	BC
IC407	RH-iX0391TAZZ	J	External Memory	BC
IC408	RH-iX0358TAZZ	J	Transport 1, LZ9HT19	BQ
IC412	VHiTC7S08F/-1	J	AND Gate	AC
IC413	VHiM40C558V-1	J	A/D Converter	AX
IC415	VHiTC7S08F/-1	J	AND Gate	AC
IC420	VHiTC7W74U/-1	J	Schmitt Inverter	AD
IC421	VHiTC7W14U/-1	J	Schmitt Inverter	AG
IC422	VHiTC7W14U/-1	J	Schmitt Inverter	AG
IC423	VHiTC7S08F/-1	J	AND Gate	AC
IC701	RH-iX0409TAZZ	J	System Control Micon	AY
IC702	RH-iX0415TAZZ	J	Mecha. Control Micon	AZ
IC703	VHiNJM2902V-1	J	Drum/Capstan Error Amp.	AD
IC706	VHiXL93L46F-1	J	EEPROM	AG
IC800	RH-iX0322TAZZ	J	LCD DSP, LR38291	BD
IC802	VHiMM1323XJ-1	J	LCD Interface	AT
IC804	VHiNJM2107F-1	J	AFC LPF	AE
IC805	VHiT7A164S/-1	J	Shift Register	AL
IC901	VHiTA75S01F-1	J	Current Detect	AD
IC902	VHiTA75S01F-1	J	Current Detect	AD
IC903	VHiTA75S558-1	J	Ope. Amp.	AE
IC904	VHiBA9701F/-1	J	Sub-Switching Control	AF
IC1401	VHiC111306F-1	J	Video Output Process	AX
IC1402	VHiBU4053V/-1	J	Output Switch	AE
IC1403	VHiTA75S393-1	J	TA75S393F	AC
IC1701	VHiLB1950V/-1	J	Drum Motor Driver	AQ
IC1702	VHiLB1951V/-1	J	Capstan Motor Driver	AN
IC1703	VHiLB1638M/-1	J	Loading Motor Driver	AK
IC1705	VHiTA75S393-1	J	Drum FG Amp.	AC
IC1706	VHiNJM2901V-1	J	Reel Sensor Amp.	AD
IC1707	VHiNJM2112V-1	J	Reel Sensor Amp.	AF
IC1901	RH-iX0325TAZZ	J	Main Switching Control MB4484PFV-G	AY
IC2701	VHiS8423ZF/-1	J	Battery Switch and Detect	AN
IC3401	VHiBH7268KV-1	J	PLL	BB
IC3402	VHiBH7273KV-1	J	EQ/ATF	BA
IC3404	VHiTA8517//-1	J	Comparator	AV
IC3405	VHiTA75S01F-1	J	Amp.	AD
IC3701	VHiMB88344F-1	J	D/A Converter	AV
IC3721	RH-iX0416TAZZ	J	GUI Micon	AW
IC3722	RH-iX0334TAZZ	J	OSD, UPD6462GS-615	AP
IC4401	RH-iX0372TAZZ	J	Digital Decoder	BM
IC4411	RH-iX0419TAZZ	J	Sync./Clock Generator	BE
IC6401	VHiTC4W66U/-1	J	I/O Switch	AF
IC6403	VHiTA75W5581E	J	Amplifier	AE

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VCR PWB UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
IC6404	VHiBA7785FS-1	J	SP/HP Amplifier	AN
IC6406	VHiBU4053V/-1	J	I/O Switch	AE
IC6501	VHiAK4504//-1	J	ADC/DAC	AZ
IC6502	VHiTK10625M-1	J	Inverter/Buffer	AH
IC6503	VHiTK10621M-1	J	LPF	AH
IC6550	RH-iX0264TAZZ	J	TC180G45AF0020	BH
IC6551	RH-iX0278TAZZ	J	HM62V256LT-8	AX
IC8701	VHiCXK5810T-1	J	1M SRAM	BC

TRANSISTORS

Q702	VSDTC144EE/-1	J	Switch	AA
Q703	VS2SC4738Y/-1	J	LED Driver	AA
Q704	VSUN9214///-1	J	Remote Buffer	AB
Q705	VS2SA1577R/-1	J		AB
Q725	VS2SA1774F/-1	J	Switch	AA
Q901	VSXP1B301//-1	J	Regulator	AD
Q903	VSFX803////-1	J	BL Power Switch	AG
Q904	VS2SC4617B/-1	J	Current Detect	AA
Q909	VSFX802////-1	J		AG
Q911	VS2SD1805//-1	J	P-CON 4.9V Switch	AF
Q912	VS2SB1302S/-1	J	Switch	AD
Q913	VSUMG5N////-1	J	Switch	AD
Q914	VSXN4604///-1	J	Switch	AD
Q921	VSFX803////-1	J	2.8V Burst Up Switch	AG
Q922	VS2SB1302S/-1	J	Switch	AD
Q924	VS2SB1302S/-1	J	Switch	AD
Q932	VS2SB12956/-1	J	Switch	AB
Q933	VS2SB1424Q/-1	J		AD
Q935	VS2SD1664R/-1	J		AC
Q941	VS2SB1121T/-1	J	LCD/CAM Converter Switch	AC
Q942	VSUMT2/////-1	J	15V Regulator	AB
Q944	VSXP1213///-1	J	Switch	AB
Q945	VSUMD12N///-1	J	Switch	AC
Q962	VS2SD1805//-1	J	Motor 4.6V Switch	AF
Q963	VS2SB1302S/-1	J	Switch	AD
Q965	VSMPL1/////-1	J	Drum VS Switch	AE
Q966	VSMPL1/////-1	J	Capstan VS Switch	AE
Q967	VSDTC144EE/-1	J	Switch	AA
Q972	VSXN4604///-1	J	Driver	AD
Q973	VSFX803////-1	J	Macha. 4.9V Switch	AG
Q1401	VS2SB1197KQ-1	J		AC
Q1402	VSDTC144EE/-1	J		AA
Q1403	VSDTC144EE/-1	J	Switch	AA
Q1404	VS2SB1197KQ-1	J	Switch	AC
Q1406	VSUMZ1/////-1	J		AB
Q1407	VS2SC4738Y/-1	J		AA
Q1408	VS2SC4738Y/-1	J	Buffer	AA
Q1409	VS2SA1774F/-1	J		AA
Q1410	VSUMZ1/////-1	J		AB
Q1412	VS2SA1774F/-1	J	Buffer	AA
Q1416	VSDTC144EE/-1	J		AA
Q1420	VSDTC144EE/-1	J		AA
Q1421	VSXP4601///-1	J		AB
Q1422	VSUMX2/////-1	J		AB
Q1701	VSUMX2/////-1	J	S/E LED Driver	AB
Q1702	VSUMB2/////-1	J	S/E LED Driver	AB
Q1703	VSUN9111///-1	J	Sol. Switch	AA
Q1704	VSiMX9/////-1	J	Sol. Driver	AC
Q1705	VSUMG2/////-1	J	Switch	AC
Q1706	VS2SC4738Y/-1	J	Buffer	AA
Q3401	VSXP6501///-1	J	Amplifier	AB
Q3402	VS2SD1979S/-1	J	Switch	AE
Q3404	VS2SC4627CD-1	J	Buffer	AB
Q3405	VS2SC4627CD-1	J	Amplifier	AB
Q3701	VSXP4311///-1	J	Switch	AB
Q4401	VS2SC4738Y/-1	J		AA
Q4402	VS2SC4738Y/-1	J		AA
Q4403	VS2SA1774F/-1	J		AA
Q4404	VS2SC4738Y/-1	J		AA
Q4405	VS2SA1774F/-1	J		AA
Q4406	VS2SC4738Y/-1	J		AA
Q4407	VS2SA1774F/-1	J		AA
Q4412	VS2SA1774F/-1	J		AA
Q4701	VS2SC4738Y/-1	J	Buffer	AA
Q6401	VSFMG12////-1	J	Mute	AD
Q6403	VS2SA1774F/-1	J	Detector	AA
Q6404	VSUMD12N///-1	J	Mute Switch	AC
Q6405	VSFMG12////-1	J	Mute	AD
Q6407	VS2SB12956/-1	J	Switch	AB
Q6408	VSDTC144EE/-1	J	Switch	AA
Q6409	VS2SD1819A/-1	J	Regulator	AB
Q6410	VSHN1B01FU/-1	J	Switch	AC
Q6411	VS2SC4617B/-1	J	Regulator	AA
Q6412	VSDTC144EE/-1	J	Inverter Switch	AA
Q6453	VSUMX2/////-1	J	Buffer	AB
Q6490	VSUMD12N///-1	J	Inverter Switch	AC
Q6660	VSUMX2/////-1	J		AB

DIODES

D701	VHDDA221///-1	J	Diode DA221	AB
D806	VHDHVU359TR-1	J	Diode	AE
D807	RH-EX0210TAZZ	J	Zener Diode	AD
D808	RH-EX0870CEZZ	J	Zener Diode	AD
D901	RH-EX0161TAZZ	J	Zener Diode	AD
D911	VHDMA2S111/-1	J	Diode MA2S111	AC
D912	VHDSFPB62//2E	J	Diode SFPB62	AD
D913	VHDSFPB62//2E	J	Diode SFPB62	AD
D941	VHDDA227///-1	J	Diode DA227	AB
D942	VHDDA227///-1	J	Diode DA227	AB
D962	VHDSFPB62//2E	J	Diode SFPB62	AD
D964	VHDSFPB62//2E	J	Diode SFPB62	AD
D971	VHDMA2S111/-1	J	Diode MA2S111	AC
D1402	VHDUMR11N//-1	J	Diode UMR11N	AC
D1404	VHDUMR11N//-1	J	Diode UMR11N	AC
D2713	VHDMA729///-1	J	Diode MA729	AD
D3401	VHDMA704WA/-1	J	Diode MA704WA	AD
D4401	VHDHVU350B/-1	J	Diode HVU350B	AC
D4402	VHDHVU350B/-1	J	Diode HVU350B	AC

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PACKAGED CIRCUITS

Ref. No.	Part No.	★	Description	Code
⚠CP900	VHiCCP2E63/-1	J	Circuit Protector	AD
⚠CP901	VHiCCP2E63/-1	J	Circuit Protector	AD
⚠CP902	VHiCCP2E63/-1	J	Circuit Protector	AD
⚠CP905	VHiCCP2E63/-1	J	Circuit Protector	AD
⚠CP2701	VHiCCP2E63/-1	J	Circuit Protector	AD
TH801	VHHT1103K44-1	J	Thermistor	AD
X401	RCRSC0091TAZZ	J	Crystal	AM
X701	RCRSC0032TAZZ	J	Crystal	AG
X702	RCRSC0106TAZZ	J	Crystal	AK
X4401	RCRSC0102TAZZ	J	Crystal	AM
X4403	RCRSC0103TAZZ	J	Crystal	AN
X6550	RCRSC0107TAZZ	J	Crystal	AL

COIL AND TRANSFORMERS

CF701	RFiLC0061TAZZ	J	Ceramic Filter	AE
FL2401	RFiLN0024TAZZ	J	Filter	AF
FL3401	RCiLF0334TAZZ	J	Filter	AL
FL3402	RCiLF0334TAZZ	J	Filter	AL
FL3403	RCiLF0335TAZZ	J	Filter	AL
FL3701	RCiLB0040TAZZ	J	Oscillation Coil	AF
FL4401	RCiLF0344TAZZ	J	Filter	AK
FL4404	RCiLF0344TAZZ	J	Filter	AK
FL6550	RCiLZ0280TAZZ	J	Filter	BA
L402	VPABM1R5JR97N	J	Peaking Coil 1.5µH	AC
L403	VPABM4R7J1R7N	J	Peaking Coil 4.7µH	AC
L404	VPABM4R7J1R7N	J	Peaking Coil 4.7µH	AC
L701	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L711	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L712	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L814	VPAWM180J3R6N	J	Peaking Coil 18µH	AD
L815	VPAWM100J2R6N	J	Peaking Coil 10µH	AC
L816	VPAWM100J2R6N	J	Peaking Coil 10µH	AC
L817	VP-NM100KR42N	J	Peaking Coil 10µH	AB
L819	VPAWM100J2R6N	J	Peaking Coil 10µH	AC
L820	VPAWM100J2R6N	J	Peaking Coil 10µH	AC
L821	VPAWM100J2R6N	J	Peaking Coil 10µH	AC
L822	VPAWM470J6R4N	J	Peaking Coil 47µH	AC
L901	RCiLP0236TAZZ	J	Coil	AE
L902	RCiLP0233TAZZ	J	Coil	AF
L903	RCiLP0226TAZZ	J	Coil	AE
L911	RCiLP0236TAZZ	J	Coil	AE
L912	RCiLP0233TAZZ	J	Coil	AF
L913	VPBAM2R2M090N	J	Peaking Coil 2.2µH	AC
L914	VPBAM2R2M090N	J	Peaking Coil 2.2µH	AC
L921	RCiLP0236TAZZ	J	Coil	AE
L922	RCiLP0233TAZZ	J	Coil	AF
L923	RCiLP0233TAZZ	J	Coil	AF
L924	VPBAM2R2M090N	J	Peaking Coil 2.2µH	AC
L925	VPBAM1R0M060N	J	Peaking Coil 1µH	AC
L933	VPBAM2R2M090N	J	Peaking Coil 2.2µH	AC
L934	VPBAM2R2M090N	J	Peaking Coil 2.2µH	AC
L941	RCiLP0236TAZZ	J	Coil	AE
L942	VP-NM100KR42N	J	Peaking Coil 10µH	AB
L943	VP-NM100KR42N	J	Peaking Coil 10µH	AB
L944	VP-NM100KR42N	J	Peaking Coil 10µH	AB
L945	VP-NM100KR42N	J	Peaking Coil 10µH	AB
L961	RCiLP0236TAZZ	J	Coil	AE
L962	RCiLP0233TAZZ	J	Coil	AF
L963	RCiLP0233TAZZ	J	Coil	AF
L964	RCiLP0233TAZZ	J	Coil	AF
L971	RCiLP0236TAZZ	J	Coil	AE
L972	RCiLP0233TAZZ	J	Coil	AF
L973	VPBAM2R2M090N	J	Peaking Coil 2.2µH	AC
L1401	VP-NM470K2R0N	J	Peaking Coil 47µH	AB
L1402	VP-NM101K4R2N	J	Peaking Coil 100µH	AC
L1403	VP-NM100KR42N	J	Peaking Coil 10µH	AB
L1701	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L1704	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L1705	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L1706	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L1901	VPAWM100J2R6N	J	Peaking Coil 10µH	AC
L3401	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3402	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3403	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3405	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3406	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3407	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3410	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3411	VPABM1R5JR97N	J	Peaking Coil 1.5µH	AC
L3412	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L3701	VP-NM470K2R0N	J	Peaking Coil 47µH	AB
L3702	VP-NM470K2R0N	J	Peaking Coil 47µH	AB
L3710	VP-NM220K1R0N	J	Peaking Coil 22µH	AB
L4401	VP-NM101K4R2N	J	Peaking Coil 100µH	AC
L4402	VP-NM101K4R2N	J	Peaking Coil 100µH	AC
L4403	VP-NM101K4R2N	J	Peaking Coil 100µH	AC
L4405	RCiLB0045TAZZ	J	Coil	AH
L4406	VP-NM101K4R2N	J	Peaking Coil 100µH	AC
L4407	VP-NM101K4R2N	J	Peaking Coil 100µH	AC
L4410	VP-NM470K2R0N	J	Peaking Coil 47µH	AB
L6403	VP-WM220KR71N	J	Peaking Coil 22µH	AB
L6408	VP-NM101K4R2N	J	Peaking Coil 100µH	AC
L6501	VPBAM101K2R5N	J	Peaking Coil 100µH	AD
L6502	VPBAM470KR95N	J	Peaking Coil 47µH	AD
L6550	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
T901	RTRNZ0106TAZZ	J	Transformer	AG

CONTROL

R3602	RVR-M8023TAZZ	J	PLL Adjust	AC

CAPACITORS

C401	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C402	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C405	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C406	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C409	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C410	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C411	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB

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Ref. No.	Part No.	★	Description			Code
C412	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C413	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C414	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C415	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C416	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C425	VCCCCZ1HH100D	J	10p	50V	Ceramic	AB
C426	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C427	VCCCCZ1HH100D	J	10p	50V	Ceramic	AB
C430	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C431	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C432	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C434	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C435	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C437	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C439	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C440	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C441	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C442	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C444	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C445	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C446	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C447	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C448	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C449	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C450	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C451	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C452	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C453	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C454	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C455	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C456	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C458	VCCCCZ1HH150J	J	15p	50V	Ceramic	AB
C462	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C463	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C464	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C465	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C466	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C467	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C468	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C469	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C470	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C471	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C472	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C473	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C474	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C479	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C480	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C481	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C482	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C483	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C484	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C485	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C486	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C487	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C488	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C489	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C490	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C491	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C492	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C493	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C494	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C495	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C496	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C497	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C499	VCCCCZ1HH200J	J	20p	50V	Ceramic	AA
C701	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C702	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C705	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C706	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C707	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C708	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C709	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C711	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C712	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C713	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C714	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C715	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C716	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C717	VCCCCZ1HH120J	J	12p	50V	Ceramic	AB
C718	VCCCCZ1HH120J	J	12p	50V	Ceramic	AB
C751	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C752	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C753	VCCCCZ1HH5R0C	J	5p	50V	Ceramic	AC
C754	VCCCCZ1HH5R0C	J	5p	50V	Ceramic	AC
C755	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C756	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C757	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C758	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C759	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C760	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C761	VCKYTV1HB473K	J	0.047	50V	Ceramic	AA
C762	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C763	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C764	VCKYCZ1EB682K	J	6800p	25V	Ceramic	AB
C765	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C767	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C768	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C769	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C770	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C800	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C801	VCCCCY1EH561J	J	560p	25V	Ceramic	AA
C802	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C804	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C805	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C806	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C807	VCCCCZ1HH560J	J	56p	50V	Ceramic	AB
C808	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C809	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C810	VCCCCZ1HH220J	J	22p	50V	Ceramic	AB

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Ref. No.	Part No.	★	Description			Code
C811	VCCCCZ1HH560J	J	56p	50V	Ceramic	AB
C812	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C814	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C815	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C816	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C817	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C818	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C819	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C820	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C822	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C823	VCSATE1AJ226M	J	22	10V	Tantalum	AD
C824	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C825	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C826	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C827	VCSATE1CJ106M	J	10	16V	Tantalum	AD
C828	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C829	VCSATC1AJ476M	J	47	10V	Tantalum	AE
C830	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C831	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C832	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C836	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C839	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C840	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C841	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C842	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C843	VCSAPD1AJ225M	J	2.2	10V	Tantalum	AC
C844	VCSATC1CJ226M	J	22	16V	Tantalum	AF
C845	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C846	VCSATC1CJ226M	J	22	16V	Tantalum	AF
C847	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C848	VCSATE1VJ335M	J	3.3	35V	Tantalum	AD
C849	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C850	VCSATE1DJ475M	J	4.7	20V	Tantalum	AD
C851	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C853	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C854	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C855	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C856	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C857	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C858	VCCCCZ1HH470J	J	47p	50V	Ceramic	AB
C859	VCCCCZ1HH470J	J	47p	50V	Ceramic	AB
C860	VCCCCZ1HH470J	J	47p	50V	Ceramic	AB
C861	VCKYCZ1HB471K	J	470p	50V	Ceramic	AB
C862	VCKYCZ1HB471K	J	470p	50V	Ceramic	AB
C863	VCCCCZ1HH221J	J	220p	50V	Ceramic	AB
C869	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C885	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C900	VCSNCA1AC475M	J	4.7	10V	Sp. Polymer	AG
C901	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C903	RC-CZ0019TAZZ	J	2.2	10V	Ceramic	AF
C904	RC-KZ0026TAZZ	J	6.8	16V	Ceramic	AF
C905	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C906	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C907	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C908	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C909	RC-CZ0017TAZZ	J	2.2	16V	Ceramic	AE
C911	RC-KZ0042TAZZ	J	4.7	6.3V	Ceramic	AE
C912	RC-KZ0042TAZZ	J	4.7	6.3V	Ceramic	AE
C913	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C914	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C915	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C921	RC-CZ0019TAZZ	J	2.2	10V	Ceramic	AF
C922	RC-KZ0042TAZZ	J	4.7	6.3V	Ceramic	AE
C923	RC-KZ0042TAZZ	J	4.7	6.3V	Ceramic	AE
C924	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C925	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C926	VCSNCE1AC106M	J	10	10V	Sp. Polymer	AF
C935	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C936	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C937	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C941	VCKYTQ0JB335M	J	3.3	6.3V	Ceramic	AE
C942	RC-KZ0046TAZZ	J	4.7	3.5V	Ceramic	AD
C943	RC-CZ0019TAZZ	J	2.2	10V	Ceramic	AF
C944	RC-CZ0019TAZZ	J	2.2	10V	Ceramic	AF
C945	RC-KZ0046TAZZ	J	4.7	3.5V	Ceramic	AD
C946	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C947	VCKYTV1CF105Z	J	1	16V	Ceramic	AB
C948	VCKYTV1CF105Z	J	1	16V	Ceramic	AB
C949	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C950	VCKYCZ1EF223Z	J	0.022	25V	Ceramic	AB
C964	RC-CZ0019TAZZ	J	2.2	10V	Ceramic	AF
C965	RC-KZ0042TAZZ	J	4.7	6.3V	Ceramic	AE
C966	VCSNCE1AC106M	J	10	10V	Sp. Polymer	AF
C968	RC-KZ0042TAZZ	J	4.7	6.3V	Ceramic	AE
C969	RC-KZ0042TAZZ	J	4.7	6.3V	Ceramic	AE
C973	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C974	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C976	VCKYCZ1HB471K	J	470p	50V	Ceramic	AB
C977	VCKYCZ1EB472K	J	4700p	25V	Ceramic	AB
C978	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C979	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C980	RC-CZ0019TAZZ	J	2.2	10V	Ceramic	AF
C981	VCSNCE1AC106M	J	10	10V	Sp. Polymer	AF
C982	RC-CZ0019TAZZ	J	2.2	10V	Ceramic	AF
C983	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C1401	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C1402	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1403	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C1404	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C1405	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C1406	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1407	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1408	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1409	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1410	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1411	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C1412	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C1413	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1416	VCSATA1AJ475M	J	4.7	10V	Tantalum	AC

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Ref. No.	Part No.	★	Description			Code
C1417	VCSATC0JJ107M	J	100	6.3V	Tantalum	AG
C1418	VCSATA1AJ475M	J	4.7	10V	Tantalum	AC
C1419	VCSATA1AJ475M	J	4.7	10V	Tantalum	AC
C1420	VCSATC0JJ107M	J	100	6.3V	Tantalum	AG
C1421	VCSATC1AJ476M	J	47	10V	Tantalum	AE
C1422	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1423	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C1424	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C1425	VCSATC1AJ476M	J	47	10V	Tantalum	AE
C1426	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1427	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C1428	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C1429	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C1430	VCSATC1AJ476M	J	47	10V	Tantalum	AE
C1437	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1439	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1440	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1441	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1442	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C1443	VCSATC1AJ476M	J	47	10V	Tantalum	AE
C1447	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1448	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1450	VCKYCZ1CB822K	J	8200p	16V	Ceramic	AB
C1451	VCKYCZ1HB821K	J	820p	50V	Ceramic	AC
C1452	VCSATA1CJ225M	J	2.2	16V	Tantalum	AC
C1453	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1701	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C1702	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C1703	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C1704	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C1705	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C1706	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C1707	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C1708	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C1709	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1710	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1711	VCKYTV1EB823K	J	0.082	25V	Ceramic	AC
C1712	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C1713	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C1714	VCKYCZ1EB472K	J	4700p	25V	Ceramic	AB
C1716	VCSAPD1CJ105M	J	1	16V	Tantalum	AC
C1717	VCKYCZ1EB682K	J	6800p	25V	Ceramic	AB
C1718	VCKYCZ1EB682K	J	6800p	25V	Ceramic	AB
C1719	VCKYCZ1EB682K	J	6800p	25V	Ceramic	AB
C1723	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C1724	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C1725	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C1727	VCKYCY1CF154Z	J	0.15	16V	Ceramic	AB
C1729	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1732	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C1735	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C1740	VCKYTV1CF105Z	J	1	16V	Ceramic	AB
C1741	VCSATA1AJ106M	J	10	10V	Tantalum	AC

Ref. No.	Part No.	★	Description			Code
C1759	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1760	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C1762	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C1763	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1769	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C1770	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1771	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C1772	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1774	VCKYCY1CF154Z	J	0.15	16V	Ceramic	AB
C1775	VCKYCY1CF154Z	J	0.15	16V	Ceramic	AB
C1778	VCKYTQ0JB335M	J	3.3	6.3V	Ceramic	AE
C1779	VCKYTQ0JB335M	J	3.3	6.3V	Ceramic	AE
C1782	VCKYTQ0JB335M	J	3.3	6.3V	Ceramic	AE
C1783	VCKYTQ0JB335M	J	3.3	6.3V	Ceramic	AE
C1784	VCCCCZ1HH470J	J	47p	50V	Ceramic	AB
C1785	VCSATD0JJ227M	J	220	6.3V	Tantalum	AH
C1791	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1792	VCKYCY1HB103K	J	0.01	50V	Ceramic	AA
C1901	VCCCCY1HH221J	J	220p	50V	Ceramic	AA
C1902	VCCCCY1HH221J	J	220p	50V	Ceramic	AA
C1903	VCKYCY1HB471K	J	470p	50V	Ceramic	AA
C1904	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C1905	VCKYTV1CB224K	J	0.22	16V	Ceramic	AB
C1906	VCKYTV1CB224K	J	0.22	16V	Ceramic	AB
C1907	VCKYTV1CB224K	J	0.22	16V	Ceramic	AB
C1908	VCKYTV1HB103K	J	0.01	50V	Ceramic	AA
C1909	VCKYCY1HB182K	J	1800p	50V	Ceramic	AA
C1910	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C1912	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C1913	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C1914	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C1915	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C1916	VCKYTV1CB224K	J	0.22	16V	Ceramic	AB
C1917	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C1918	VCKYTV1CB224K	J	0.22	16V	Ceramic	AB
C1919	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB
C1920	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C1924	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C1926	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1927	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C1930	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C1931	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C1932	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C1933	VCKYCZ1EB472K	J	4700p	25V	Ceramic	AB
C1934	VCKYCY1CB104K	J	0.1	16V	Ceramic	AB
C2701	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2704	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2705	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C2706	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C2708	VCKYTV1CB224K	J	0.22	16V	Ceramic	AB
C2713	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C2730	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C3401	VCCCCZ1HH120J	J	12p	50V	Ceramic	AB
C3406	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3407	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3408	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB

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Ref. No.	Part No.	★	Description			Code
C3409	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3410	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3411	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C3412	VCKYTV1CF334Z	J	0.33	16V	Ceramic	AB
C3414	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3415	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C3418	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3419	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3421	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C3422	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3423	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3424	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3425	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3426	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3429	VCKYCZ1CB223K	J	0.022	16V	Ceramic	AC
C3430	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3431	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3432	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3433	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3436	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3437	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C3438	VCKYCZ1CB223K	J	0.022	16V	Ceramic	AC
C3440	VCSAPD1AJ225M	J	2.2	10V	Tantalum	AC
C3441	VCKYTV1CF225Z	J	2.2	16V	Ceramic	AC
C3442	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3443	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C3445	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3446	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C3447	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3448	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3450	VCCCCZ1HH680J	J	68p	50V	Ceramic	AB
C3451	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3452	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3453	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3455	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3456	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3457	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3458	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3460	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3461	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3462	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3463	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3464	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3465	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3466	VCCCCZ1HH560J	J	56p	50V	Ceramic	AB
C3467	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3468	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C3469	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3470	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3472	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3473	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C3474	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C3475	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3476	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C3477	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3478	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3479	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3480	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3481	VCCCCZ1HH120J	J	12p	50V	Ceramic	AB
C3482	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3483	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3484	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3485	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3486	VCCCCZ1HH150J	J	15p	50V	Ceramic	AB
C3487	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3488	VCKYCZ1CB822K	J	8200p	16V	Ceramic	AB
C3490	VCCCCZ1HH100D	J	10p	50V	Ceramic	AB
C3491	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3495	VCCCCZ1HH220J	J	22p	50V	Ceramic	AB
C3496	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3497	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3498	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3500	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C3701	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C3702	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3703	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3704	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3706	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C3721	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3722	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C3723	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3724	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3750	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3751	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C3754	VCSATA1AJ475M	J	4.7	10V	Tantalum	AC
C3756	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C3799	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C4401	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4402	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C4403	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4404	VCKYCY1CF474Z	J	0.47	16V	Ceramic	AB
C4405	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4406	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4407	VCKYCZ1HB152K	J	1500p	50V	Ceramic	AB
C4408	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C4409	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4411	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4412	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4413	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C4414	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4415	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4416	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C4417	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4418	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4419	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C4420	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C4421	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4422	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4424	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB

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Ref. No.	Part No.	★	Description			Code
C4425	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4426	VCKYCZ1CB103K	J	0.01	16V	Ceramic	AB
C4427	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C4428	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C4429	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4430	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C4431	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4432	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4433	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C4434	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4436	VCSATE1AJ336M	J	33	10V	Tantalum	AG
C4437	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C4439	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4440	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C4492	VCCCCZ1HH6R0D	J	6p	50V	Ceramic	AA
C4493	VCCCCZ1HH6R0D	J	6p	50V	Ceramic	AA
C4494	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C4495	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C4496	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C4499	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C4512	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C4513	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C4515	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6401	VCSATE1VJ335M	J	3.3	35V	Tantalum	AD
C6405	VCKYCY1CF224Z	J	0.22	16V	Ceramic	AA
C6406	VCKYCY1CF224Z	J	0.22	16V	Ceramic	AA
C6419	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6421	VCSATA1AJ335M	J	3.3	10V	Tantalum	AC
C6422	VCSATA1AJ335M	J	3.3	10V	Tantalum	AC
C6423	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6424	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6425	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C6426	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6428	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6429	VCKYCZ1HB222K	J	2200p	50V	Ceramic	AB
C6430	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6431	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6432	VCKYCZ1HB222K	J	2200p	50V	Ceramic	AB
C6435	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C6436	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C6437	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C6438	VCSATA0JJ156M	J	15	6.3V	Tantalum	AC
C6470	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C6471	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C6473	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C6474	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C6475	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6476	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6477	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C6480	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C6481	VCKYTV1AB105K	J	1	10V	Ceramic	AD
C6497	VCSATD1AJ157M	J	150	10V	Tantalum	AG
C6498	VCSATD1AJ157M	J	150	10V	Tantalum	AG
C6499	VCSATC1AJ476M	J	47	10V	Tantalum	AE
C6501	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6502	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6503	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6504	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6505	VCKYCZ1HB152K	J	1500p	50V	Ceramic	AB
C6506	VCKYCZ1HB152K	J	1500p	50V	Ceramic	AB
C6507	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C6508	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6509	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6518	VCSATA0GJ226M	J	22	4V	Tantalum	AD
C6519	VCSATA0GJ226M	J	22	4V	Tantalum	AD
C6520	VCSATA0GJ226M	J	22	4V	Tantalum	AD
C6521	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6534	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6535	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C6540	VCKYCZ1HB471K	J	470p	50V	Ceramic	AB
C6541	VCKYCZ1HB471K	J	470p	50V	Ceramic	AB
C6550	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6551	VCKYTV1CF225Z	J	2.2	16V	Ceramic	AC
C6552	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6553	VCSATA1AJ475M	J	4.7	10V	Tantalum	AC
C6554	VCKYTV1HB473K	J	0.047	50V	Ceramic	AA
C6555	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6556	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6557	VCCCCZ1HH270J	J	27p	50V	Ceramic	AB
C6558	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6559	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6560	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6561	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6562	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6563	VCKYCZ1HF103Z	J	0.01	50V	Ceramic	AB
C6567	VCCCCZ1HH270J	J	27p	50V	Ceramic	AB
C6601	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C6602	VCKYCZ1HB102K	J	1000p	50V	Ceramic	AB
C6604	VCSAPD1CJ105M	J	1	16V	Tantalum	AC

RESISTORS

R401	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R406	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R407	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R410	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R411	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R412	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R440	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R443	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R446	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R499	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R704	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R707	VRS-CZ1JF272J	J	2.7k	1/16W	Metal Oxide	AA
R709	VRS-CZ1JF474F	J	470k	1/16W	Metal Oxide	AB
R710	VRS-CZ1JF823F	J	82k	1/16W	Metal Oxide	AB
R726	VRS-CZ1JF334J	J	330k	1/16W	Metal Oxide	AA
R727	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R728	VRS-CZ1JF332J	J	3.3k	1/16W	Metal Oxide	AA
R729	VRS-CZ1JF332J	J	3.3k	1/16W	Metal Oxide	AA

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Ref. No.	Part No.	★	Description			Code
R730	VRS-CZ1JF332J	J	3.3k	1/16W	Metal Oxide	AA
R733	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R734	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R735	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R736	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R738	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R739	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R740	VRS-CZ1JF822J	J	8.2k	1/16W	Metal Oxide	AA
R742	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R743	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R745	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R747	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R749	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R751	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R753	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R755	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R758	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R760	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R761	VRS-CZ1JF563J	J	56k	1/16W	Metal Oxide	AA
R762	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R763	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R764	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R765	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R766	VRS-CZ1JF683J	J	68k	1/16W	Metal Oxide	AA
R767	VRS-CZ1JF393J	J	39k	1/16W	Metal Oxide	AA
R768	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R769	VRS-CZ1JF122J	J	1.2k	1/16W	Metal Oxide	AA
R770	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R771	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R772	VRS-CZ1JF823J	J	82k	1/16W	Metal Oxide	AA
R778	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R780	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R782	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R783	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R785	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R786	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R787	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R788	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R791	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R792	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R794	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R795	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R798	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R799	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R800	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R801	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R802	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R803	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R804	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R805	VRS-CZ1JF683J	J	68k	1/16W	Metal Oxide	AA
R806	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R807	VRS-CZ1JF683J	J	68k	1/16W	Metal Oxide	AA
R808	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R809	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R810	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R811	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R812	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R813	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R814	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R815	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R816	VRS-CZ1JF821J	J	820	1/16W	Metal Oxide	AA
R820	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R821	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R822	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R823	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R824	VRS-CZ1JF391D	J	390	1/16W	Metal Oxide	AB
R828	VRS-CZ1JF391D	J	390	1/16W	Metal Oxide	AB
R830	VRS-CZ1JF393D	J	39k	1/16W	Metal Oxide	AB
R831	VRS-CZ1JF223D	J	22k	1/16W	Metal Oxide	AB
R832	VRS-CZ1JF113D	J	11k	1/16W	Metal Oxide	AA
R833	VRS-CZ1JF391D	J	390	1/16W	Metal Oxide	AB
R837	VRS-CZ1JF391D	J	390	1/16W	Metal Oxide	AB
R838	VRS-CZ1JF393D	J	39k	1/16W	Metal Oxide	AB
R839	VRS-CZ1JF223D	J	22k	1/16W	Metal Oxide	AB
R840	VRS-CZ1JF113D	J	11k	1/16W	Metal Oxide	AA
R841	VRS-CZ1JF273D	J	27k	1/16W	Metal Oxide	AA
R842	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R845	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R847	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R849	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R853	VRS-CZ1JF391J	J	390	1/16W	Metal Oxide	AA
R854	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R855	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R856	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R857	VRS-CZ1JF822J	J	8.2k	1/16W	Metal Oxide	AA
R858	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R859	VRS-CZ1JF124J	J	120k	1/16W	Metal Oxide	AA
R861	VRS-CZ1JF183D	J	18k	1/16W	Metal Oxide	AB
R863	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R865	VRS-CZ1JF273D	J	27k	1/16W	Metal Oxide	AA
R867	VRS-CZ1JF512J	J	5.1k	1/16W	Metal Oxide	AB
R869	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R870	VRS-CZ1JF332J	J	3.3k	1/16W	Metal Oxide	AA
R871	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R874	VRS-CZ1JF273D	J	27k	1/16W	Metal Oxide	AA
R875	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R876	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R877	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R880	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R881	VRS-CZ1JF3R0J	J	3	1/16W	Metal Oxide	AA
R882	VRS-CZ1JF3R0J	J	3	1/16W	Metal Oxide	AA
R883	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R885	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R886	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R889	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R890	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R900	VRS-TV1JD000J	J	0	1/16W	Metal Oxide	AA
R901	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R902	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA

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VCR PWB UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
R903	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R904	VRS-CZ1JF682J	J	6.8k	1/16W	Metal Oxide	AA
R905	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R906	VRS-CZ1JF121J	J	120	1/16W	Metal Oxide	AA
R907	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R908	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R909	VRS-CZ1JF102D	J	1k	1/16W	Metal Oxide	AA
R910	VRS-CZ1JF223D	J	22k	1/16W	Metal Oxide	AB
R911	VRS-CY1JFR22J	J	0.22	1/16W	Metal Oxide	AA
R913	VRS-TV1JD471J	J	470	1/16W	Metal Oxide	AA
R914	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R915	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R916	VRS-CZ1JF560J	J	56	1/16W	Metal Oxide	AA
R918	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R921	VRS-TV1JD471J	J	470	1/16W	Metal Oxide	AA
R922	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R924	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R928	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R931	VRS-TV1JD332J	J	3.3k	1/16W	Metal Oxide	AA
R932	VRS-TV1JD471J	J	470	1/16W	Metal Oxide	AA
R935	VRS-CZ1JF271J	J	270	1/16W	Metal Oxide	AA
R936	VRS-CZ1JF433D	J	43k	1/16W	Metal Oxide	AA
R937	VRS-CZ1JF303D	J	30k	1/16W	Metal Oxide	AA
R938	VRS-TV1JD000J	J	0	1/16W	Metal Oxide	AA
R941	VRS-CZ1JF561D	J	560	1/16W	Metal Oxide	AA
R943	VRS-CZ1JF392D	J	3.9k	1/16W	Metal Oxide	AB
R944	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R946	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R947	VRS-CZ1JF433D	J	43k	1/16W	Metal Oxide	AA
R949	VRS-CZ1JF392D	J	3.9k	1/16W	Metal Oxide	AB
R952	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R953	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R955	VRS-CZ1JF271J	J	270	1/16W	Metal Oxide	AA
R964	VRS-TV1JD222J	J	2.2k	1/16W	Metal Oxide	AA
R966	VRS-TV1JD000J	J	0	1/16W	Metal Oxide	AA
R968	VRS-TV1JD000J	J	0	1/16W	Metal Oxide	AA
R969	VRS-TV1JD000J	J	0	1/16W	Metal Oxide	AA
R973	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R975	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R976	VRS-CY1JF1R0J	J	1	1/16W	Metal Oxide	AA
R977	VRS-CZ1JF683D	J	68k	1/16W	Metal Oxide	AB
R979	VRS-CZ1JF223D	J	22k	1/16W	Metal Oxide	AB
R981	VRS-CZ1JF104D	J	100k	1/16W	Metal Oxide	AB
R983	VRS-CZ1JF363D	J	36k	1/16W	Metal Oxide	AA
R984	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R990	VRS-CZ1JF271J	J	270	1/16W	Metal Oxide	AA
R991	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R992	VRS-TV1JD220J	J	22	1/16W	Metal Oxide	AA
R1401	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R1403	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1404	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R1405	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R1406	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R1407	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1408	VRS-CZ1JF390J	J	39	1/16W	Metal Oxide	AA
R1409	VRS-CZ1JF390J	J	39	1/16W	Metal Oxide	AA
R1411	VRS-CZ1JF123J	J	12k	1/16W	Metal Oxide	AA
R1412	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R1415	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R1419	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1420	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1422	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1423	VRS-CZ1JF390J	J	39	1/16W	Metal Oxide	AA
R1424	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R1425	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1426	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1427	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1428	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1429	VRS-CZ1JF390J	J	39	1/16W	Metal Oxide	AA
R1430	VRS-CZ1JF390J	J	39	1/16W	Metal Oxide	AA
R1431	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R1432	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R1433	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R1435	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R1436	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1437	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R1439	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R1440	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R1441	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R1442	VRS-CZ1JF681J	J	680	1/16W	Metal Oxide	AA
R1443	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R1444	VRS-CZ1JF122J	J	1.2k	1/16W	Metal Oxide	AA
R1445	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R1446	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R1448	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R1449	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R1450	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R1451	VRS-CZ1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R1452	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R1453	VRS-CZ1JF272J	J	2.7k	1/16W	Metal Oxide	AA
R1454	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R1455	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R1456	VRS-CZ1JF562J	J	5.6k	1/16W	Metal Oxide	AA
R1458	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R1460	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R1461	VRS-CZ1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R1462	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R1463	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R1464	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R1465	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R1466	VRS-CZ1JF681J	J	680	1/16W	Metal Oxide	AA
R1467	VRS-CZ1JF122J	J	1.2k	1/16W	Metal Oxide	AA
R1468	VRS-CY1JF330J	J	33	1/16W	Metal Oxide	AA
R1469	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1470	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1471	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R1487	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1489	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1498	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA

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VCR PWB UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
R1499	VRS-CZ1JF822J	J	8.2k 1/16W Metal Oxide	AA
R1702	VRS-CZ1JF1R0J	J	1 1/16W Metal Oxide	AA
R1706	VRS-CZ1JF474J	J	470k 1/16W Metal Oxide	AA
R1707	VRS-CZ1JF105J	J	1M 1/16W Metal Oxide	AA
R1708	VRS-CZ1JF1R0J	J	1 1/16W Metal Oxide	AA
R1709	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1710	VRS-CZ1JF223J	J	22k 1/16W Metal Oxide	AA
R1711	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1720	VRS-CZ1JF223J	J	22k 1/16W Metal Oxide	AA
R1721	VRS-CZ1JF621J	J	620 1/16W Metal Oxide	AA
R1722	VRS-CZ1JF331J	J	330 1/16W Metal Oxide	AA
R1732	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1733	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1740	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1741	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1742	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1743	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1744	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1751	VRS-CZ1JF222J	J	2.2k 1/16W Metal Oxide	AA
R1752	VRS-CZ1JF562J	J	5.6k 1/16W Metal Oxide	AA
R1757	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1765	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1770	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1771	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1772	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1773	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1774	VRS-CZ1JF822J	J	8.2k 1/16W Metal Oxide	AA
R1775	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R1776	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1777	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1778	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1779	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1780	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1781	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1782	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1783	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1785	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1786	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R1787	VRS-CZ1JF822J	J	8.2k 1/16W Metal Oxide	AA
R1790	VRS-CZ1JF120J	J	12 1/16W Metal Oxide	AB
R1791	VRS-CZ1JF120J	J	12 1/16W Metal Oxide	AB
R1792	VRS-CZ1JF272J	J	2.7k 1/16W Metal Oxide	AA
R1793	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1794	VRS-CZ1JF272J	J	2.7k 1/16W Metal Oxide	AA
R1795	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1796	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R1797	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1798	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1799	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R1823	VRS-CZ1JF822J	J	8.2k 1/16W Metal Oxide	AA
R1901	VRN-CZ1JF432D	J	4.3k 1/16W Metal Film	AA
R1904	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1905	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1906	VRS-CZ1JF153D	J	15k 1/16W Metal Oxide	AB
R1907	VRS-CZ1JF123D	J	12k 1/16W Metal Oxide	AA
R1908	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1910	VRS-CZ1JF433D	J	43k 1/16W Metal Oxide	AA
R1911	VRS-CZ1JF682D	J	6.8k 1/16W Metal Oxide	AB
R1912	VRS-CZ1JF433D	J	43k 1/16W Metal Oxide	AA
R1913	VRS-CZ1JF123D	J	12k 1/16W Metal Oxide	AA
R1914	VRS-CZ1JF105J	J	1M 1/16W Metal Oxide	AA
R1915	VRS-CZ1JF104D	J	100k 1/16W Metal Oxide	AB
R1916	VRS-CZ1JF433D	J	43k 1/16W Metal Oxide	AA
R1917	VRS-CZ1JF122D	J	1.2k 1/16W Metal Oxide	AB
R1918	VRS-CZ1JF163D	J	16k 1/16W Metal Oxide	AA
R1919	VRS-CZ1JF123D	J	12k 1/16W Metal Oxide	AA
R1920	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1921	VRS-CZ1JF683D	J	68k 1/16W Metal Oxide	AB
R1922	VRS-CZ1JF104D	J	100k 1/16W Metal Oxide	AB
R1923	VRS-CZ1JF752D	J	7.5k 1/16W Metal Oxide	AA
R1924	VRS-CZ1JF622D	J	6.2k 1/16W Metal Oxide	AA
R1925	VRS-CZ1JF472D	J	4.7k 1/16W Metal Oxide	AB
R1926	VRS-CZ1JF274J	J	270k 1/16W Metal Oxide	AA
R1927	VRS-CZ1JF104D	J	100k 1/16W Metal Oxide	AB
R1928	VRS-CZ1JF563D	J	56k 1/16W Metal Oxide	AA
R1929	VRS-CZ1JF391J	J	390 1/16W Metal Oxide	AA
R1930	VRS-CZ1JF273D	J	27k 1/16W Metal Oxide	AA
R1931	VRS-CZ1JF182D	J	1.8k 1/16W Metal Oxide	AB
R1932	VRS-CZ1JF123D	J	12k 1/16W Metal Oxide	AA
R1933	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1934	VRS-CZ1JF823D	J	82k 1/16W Metal Oxide	AB
R1935	VRS-CZ1JF104D	J	100k 1/16W Metal Oxide	AB
R1936	VRS-CZ1JF912D	J	9.1k 1/16W Metal Oxide	AA
R1937	VRS-CZ1JF103D	J	10k 1/16W Metal Oxide	AB
R1938	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1939	VRS-CZ1JF472D	J	4.7k 1/16W Metal Oxide	AB
R1940	VRS-CZ1JF183D	J	18k 1/16W Metal Oxide	AB
R1941	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1942	VRS-CZ1JF104D	J	100k 1/16W Metal Oxide	AB
R1943	VRS-CZ1JF393D	J	39k 1/16W Metal Oxide	AB
R1944	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1945	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1946	VRS-CZ1JF333J	J	33k 1/16W Metal Oxide	AA
R1947	VRS-CZ1JF333J	J	33k 1/16W Metal Oxide	AA
R1948	VRS-CZ1JF332J	J	3.3k 1/16W Metal Oxide	AA
R1949	VRS-CZ1JF683J	J	68k 1/16W Metal Oxide	AA
R1951	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1952	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R1953	VRS-CZ1JF392J	J	3.9k 1/16W Metal Oxide	AA
R1954	VRS-CZ1JF562J	J	5.6k 1/16W Metal Oxide	AA
R1955	VRS-CZ1JF182J	J	1.8k 1/16W Metal Oxide	AA
R1957	VRS-CZ1JF182J	J	1.8k 1/16W Metal Oxide	AA
R1959	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R1960	VRS-CZ1JF821J	J	820 1/16W Metal Oxide	AA
R1961	VRS-CY1JF220J	J	22 1/16W Metal Oxide	AA
R1962	VRS-CZ1JF681J	J	680 1/16W Metal Oxide	AA
R1963	VRS-CZ1JF301J	J	300 1/16W Metal Oxide	AB
R1964	VRS-CY1JF560J	J	56 1/16W Metal Oxide	AA
R1965	VRS-CY1JF560J	J	56 1/16W Metal Oxide	AA

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VCR PWB UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
R1966	VRS-CY1JF330J	J	33	1/16W	Metal Oxide	AA
R1967	VRS-CZ1JF104D	J	100k	1/16W	Metal Oxide	AB
R1968	VRS-CZ1JF103D	J	10k	1/16W	Metal Oxide	AB
R1969	VRS-CZ1JF333D	J	33k	1/16W	Metal Oxide	AB
R1970	VRS-CZ1JF123D	J	12k	1/16W	Metal Oxide	AA
R1972	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1973	VRS-CZ1JF273D	J	27k	1/16W	Metal Oxide	AA
R1974	VRS-CZ1JF123D	J	12k	1/16W	Metal Oxide	AA
R1975	VRS-CZ1JF103D	J	10k	1/16W	Metal Oxide	AB
R1979	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R1980	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R2400	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R2424	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R2439	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R2480	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R2481	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R2702	VRS-CZ1JF122J	J	1.2k	1/16W	Metal Oxide	AA
R2703	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R2704	VRS-CZ1JF334J	J	330k	1/16W	Metal Oxide	AA
R2705	VRS-CZ1JF000J	J	0	1/16W	Metal Oxide	AA
R2706	VRS-CZ1JF563J	J	56k	1/16W	Metal Oxide	AA
R2707	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R2745	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3401	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3402	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3406	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R3407	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R3408	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3409	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3411	VRS-CZ1JF331J	J	330	1/16W	Metal Oxide	AA
R3415	VRS-CZ1JF123J	J	12k	1/16W	Metal Oxide	AA
R3416	VRS-CZ1JF223J	J	22k	1/16W	Metal Oxide	AA
R3417	VRS-CZ1JF273J	J	27k	1/16W	Metal Oxide	AA
R3419	VRS-CZ1JF301J	J	300	1/16W	Metal Oxide	AB
R3421	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R3422	VRS-CZ1JF391J	J	390	1/16W	Metal Oxide	AA
R3424	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3428	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3429	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3443	VRK-SA1JF103J	J	10k	1/16W	M. Composi.	AB
R3444	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R3447	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R3448	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R3449	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3453	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3454	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3455	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3458	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3459	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R3460	VRS-CZ1JF332J	J	3.3k	1/16W	Metal Oxide	AA
R3461	VRS-CZ1JF330J	J	33	1/16W	Metal Oxide	AA
R3462	VRS-CZ1JF332J	J	3.3k	1/16W	Metal Oxide	AA
R3463	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R3464	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3465	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R3466	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3469	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3470	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3471	VRS-CZ1JF221J	J	220	1/16W	Metal Oxide	AA
R3472	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R3474	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3475	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R3476	VRS-CZ1JF153F	J	15k	1/16W	Metal Oxide	AA
R3477	VRS-CZ1JF103F	J	10k	1/16W	Metal Oxide	AB
R3479	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3481	VRS-CZ1JF121J	J	120	1/16W	Metal Oxide	AA
R3482	VRS-CZ1JF122J	J	1.2k	1/16W	Metal Oxide	AA
R3483	VRS-CZ1JF391J	J	390	1/16W	Metal Oxide	AA
R3484	VRS-CZ1JF181J	J	180	1/16W	Metal Oxide	AA
R3485	VRS-CZ1JF271J	J	270	1/16W	Metal Oxide	AA
R3486	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3487	VRS-CZ1JF151J	J	150	1/16W	Metal Oxide	AA
R3488	VRS-CZ1JF391J	J	390	1/16W	Metal Oxide	AA
R3489	VRS-CZ1JF221J	J	220	1/16W	Metal Oxide	AA
R3491	VRS-CZ1JF221J	J	220	1/16W	Metal Oxide	AA
R3492	VRS-CZ1JF151J	J	150	1/16W	Metal Oxide	AA
R3494	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R3496	VRS-CZ1JF121J	J	120	1/16W	Metal Oxide	AA
R3497	VRK-SA1JF102J	J	1k	1/16W	M. Composi.	AB
R3501	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3503	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R3509	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3510	VRS-CZ1JF181J	J	180	1/16W	Metal Oxide	AA
R3511	VRS-CZ1JF221J	J	220	1/16W	Metal Oxide	AA
R3512	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R3513	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R3514	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R3515	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R3516	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R3517	VRS-CZ1JF151J	J	150	1/16W	Metal Oxide	AA
R3518	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R3523	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R3526	VRS-CZ1JF561J	J	560	1/16W	Metal Oxide	AA
R3527	VRS-CZ1JF151J	J	150	1/16W	Metal Oxide	AA
R3528	VRS-CZ1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R3529	VRS-CZ1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R3530	VRS-CZ1JF182J	J	1.8k	1/16W	Metal Oxide	AA
R3601	VRS-CZ1JF331J	J	330	1/16W	Metal Oxide	AA
R3602	*See Control*					
R3603	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3604	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R3605	VRS-CZ1JF681J	J	680	1/16W	Metal Oxide	AA
R3606	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R3607	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3608	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3609	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R3610	VRS-CZ1JF152J	J	1.5k	1/16W	Metal Oxide	AA
R3611	VRS-CZ1JF272J	J	2.7k	1/16W	Metal Oxide	AA
R3613	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA

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Ref. No.	Part No.	★	Description	Code
R3614	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3618	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3620	VRS-CZ1JF222J	J	2.2k 1/16W Metal Oxide	AA
R3621	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3702	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R3721	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R3722	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R3723	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3724	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3725	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3726	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3727	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3728	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3729	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3730	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3731	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R3753	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R3754	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R3755	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R3759	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R3799	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R4402	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4403	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4404	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4405	VRS-CZ1JF474J	J	470k 1/16W Metal Oxide	AA
R4406	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4407	VRS-CZ1JF474J	J	470k 1/16W Metal Oxide	AA
R4408	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4409	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4412	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R4416	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4417	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4418	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4419	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4420	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R4421	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R4422	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R4423	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R4431	VRS-CY1JF330J	J	33 1/16W Metal Oxide	AA
R4441	VRS-CZ1JF332J	J	3.3k 1/16W Metal Oxide	AA
R4443	VRS-CZ1JF334J	J	330k 1/16W Metal Oxide	AA
R4444	VRS-CZ1JF332J	J	3.3k 1/16W Metal Oxide	AA
R4445	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R4447	VRS-CZ1JF332J	J	3.3k 1/16W Metal Oxide	AA
R4448	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R4450	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4498	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R4499	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R4506	VRS-CZ1JF105J	J	1M 1/16W Metal Oxide	AA
R4586	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R4587	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R4588	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R4589	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R4590	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4591	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4592	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4593	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4594	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4595	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R4596	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4597	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4598	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4599	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R4701	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4702	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4703	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4704	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4705	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4706	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4707	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4708	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4709	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R4710	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4711	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4712	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4713	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4715	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4719	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4721	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4722	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4723	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4725	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4726	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4727	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4729	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4730	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4731	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R4732	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4733	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4770	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4772	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4776	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R4777	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R4778	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R4782	VRS-CZ1JF222J	J	2.2k 1/16W Metal Oxide	AA
R4783	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4784	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4785	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4786	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4787	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4788	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4789	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4790	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4791	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4792	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4793	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R4794	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4795	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4796	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA

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VCR PWB UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
R4797	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4798	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R4799	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R5701	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R5702	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5703	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5704	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5705	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5706	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5707	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5708	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5709	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5710	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5711	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5712	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5713	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5714	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5715	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5716	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5717	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5720	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5721	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5722	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5723	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5724	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5725	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5732	VRK-SA1JF102J	J	1k 1/16W M. Composi.	AB
R5740	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5741	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5742	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5743	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R5744	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R5745	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R5746	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R5747	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R5778	VRS-CY1JF000J	J	0 1/16W Metal Oxide	AA
R5779	VRS-CY1JF000J	J	0 1/16W Metal Oxide	AA
R6402	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R6408	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R6409	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R6412	VRS-CZ1JF563J	J	56k 1/16W Metal Oxide	AA
R6413	VRS-CZ1JF153J	J	15k 1/16W Metal Oxide	AA
R6414	VRS-CZ1JF563J	J	56k 1/16W Metal Oxide	AA
R6415	VRS-CZ1JF153J	J	15k 1/16W Metal Oxide	AA
R6420	VRS-CY1JF1R0J	J	1 1/16W Metal Oxide	AA
R6421	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R6422	VRS-CZ1JF562J	J	5.6k 1/16W Metal Oxide	AA
R6423	VRS-CZ1JF562J	J	5.6k 1/16W Metal Oxide	AA
R6424	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R6425	VRS-CY1JF470J	J	47 1/16W Metal Oxide	AA
R6426	VRS-CY1JF470J	J	47 1/16W Metal Oxide	AA
R6427	VRS-CZ1JF102J	J	1k 1/16W Metal Oxide	AA
R6432	VRS-CZ1JF563J	J	56k 1/16W Metal Oxide	AA
R6433	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6439	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6446	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R6447	VRS-CZ1JF563J	J	56k 1/16W Metal Oxide	AA
R6448	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6464	VRS-CZ1JF122J	J	1.2k 1/16W Metal Oxide	AA
R6466	VRS-CZ1JF153J	J	15k 1/16W Metal Oxide	AA
R6467	VRS-CZ1JF153J	J	15k 1/16W Metal Oxide	AA
R6468	VRS-CZ1JF100J	J	10 1/16W Metal Oxide	AA
R6469	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R6470	VRS-CZ1JF224J	J	220k 1/16W Metal Oxide	AA
R6471	VRS-CZ1JF224J	J	220k 1/16W Metal Oxide	AA
R6473	VRS-CZ1JF183J	J	18k 1/16W Metal Oxide	AA
R6474	VRS-CZ1JF561J	J	560 1/16W Metal Oxide	AA
R6475	VRS-CZ1JF561J	J	560 1/16W Metal Oxide	AA
R6476	VRS-CZ1JF474J	J	470k 1/16W Metal Oxide	AA
R6477	VRS-CZ1JF223J	J	22k 1/16W Metal Oxide	AA
R6479	VRS-CZ1JF474J	J	470k 1/16W Metal Oxide	AA
R6480	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6481	VRS-CZ1JF272J	J	2.7k 1/16W Metal Oxide	AA
R6482	VRS-CZ1JF103J	J	10k 1/16W Metal Oxide	AA
R6483	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6484	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6485	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6486	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6487	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R6488	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6489	VRS-CZ1JF000J	J	0 1/16W Metal Oxide	AA
R6490	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6491	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R6492	VRS-CZ1JF104J	J	100k 1/16W Metal Oxide	AA
R6494	VRS-CZ1JF682J	J	6.8k 1/16W Metal Oxide	AA
R6495	VRS-CZ1JF473J	J	47k 1/16W Metal Oxide	AA
R6501	VRS-TV1JD100J	J	10 1/16W Metal Oxide	AA
R6530	VRS-CZ1JF122J	J	1.2k 1/16W Metal Oxide	AA
R6531	VRS-CZ1JF122J	J	1.2k 1/16W Metal Oxide	AA
R6532	VRS-CZ1JF331J	J	330 1/16W Metal Oxide	AA
R6533	VRS-CZ1JF331J	J	330 1/16W Metal Oxide	AA
R6550	VRS-CZ1JF100J	J	10 1/16W Metal Oxide	AA
R6551	VRS-CZ1JF153J	J	15k 1/16W Metal Oxide	AA
R6552	VRS-CZ1JF823J	J	82k 1/16W Metal Oxide	AA
R6554	VRS-CZ1JF334J	J	330k 1/16W Metal Oxide	AA
R6555	VRS-CZ1JF154J	J	150k 1/16W Metal Oxide	AA
R6556	VRS-CZ1JF471J	J	470 1/16W Metal Oxide	AA
R6557	VRS-CZ1JF105J	J	1M 1/16W Metal Oxide	AA
R6558	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R6560	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R6561	VRK-SA1JF101J	J	100 1/16W M. Composi.	AB
R6562	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R6563	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R6564	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R6565	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R6566	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R6567	VRS-CZ1JF101J	J	100 1/16W Metal Oxide	AA
R6601	VRS-CZ1JF152J	J	1.5k 1/16W Metal Oxide	AA
R6602	VRS-CZ1JF152J	J	1.5k 1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code

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R6603	VRS-CY1JF101J	J	100	1/16W	Metal Oxide	AA
R6604	VRS-CY1JF101J	J	100	1/16W	Metal Oxide	AA
R6662	VRS-CY1JF102J	J	1k	1/16W	Metal Oxide	AA
R6663	VRS-CY1JF102J	J	1k	1/16W	Metal Oxide	AA
R7732	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R7738	VRS-CZ1JF101J	J	100	1/16W	Metal Oxide	AA
R7739	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R7740	VRS-CZ1JF823J	J	82k	1/16W	Metal Oxide	AA
R7741	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R7742	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R7743	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R7744	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R7745	VRS-CZ1JF823J	J	82k	1/16W	Metal Oxide	AA
R7746	VRS-CZ1JF823J	J	82k	1/16W	Metal Oxide	AA
R7747	VRS-CZ1JF474J	J	470k	1/16W	Metal Oxide	AA
R7748	VRS-CZ1JF474J	J	470k	1/16W	Metal Oxide	AA
R7749	VRS-CZ1JF820J	J	82	1/16W	Metal Oxide	AA
R7750	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R7751	VRS-CZ1JF474J	J	470k	1/16W	Metal Oxide	AA
R7752	VRS-CZ1JF474J	J	470k	1/16W	Metal Oxide	AA
R7753	VRS-CZ1JF823J	J	82k	1/16W	Metal Oxide	AA
R7754	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R7755	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R7756	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R7758	VRS-CZ1JF823J	J	82k	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

FB401	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB404	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB407	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB408	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB810	RBLN-0028TAZZ	J	Ferrite Bead	AB
FB812	RBLN-0028TAZZ	J	Ferrite Bead	AB
FB901	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB902	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB905	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB906	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB908	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB2408	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2409	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2410	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2411	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2412	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2413	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2414	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2415	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2417	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2418	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2419	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2421	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2423	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2425	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2442	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB2447	RBLN-0076TAZZ	J	Ferrite Bead	AC
FB4401	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB4410	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB6550	RBLN-0057TAZZ	J	Ferrite Bead	AC
FB6601	RBLN-0056TAZZ	J	Ferrite Bead	AC
P703	QPLGN0363TAZZ	J	Plug 3-pin	AC
P1401	QPLGN0463TAZZ	J	Plug 4-pin	AC
P2401	QCNCW6066TAZZ	J	Connecting Wire 60-pin	AK
P2702	QPLGN1463TAZZ	J	Plug 14-pin	AE
P6601	QPLGN0463TAZZ	J	Plug 4-pin	AC
SC705	QSOCN0860TAZZ	J	Socket 8-pin	AE
SC805	QSOCN2486TAZZ	J	Socket 24-pin	AE
SC901	QSOCN0786TAZZ	J	Socket 7-pin	AC
SC902	QSOCN2087TAZZ	J	Socket 20-pin	AE
SC903	QSOCN1987TAZZ	J	Socket 19-pin	AE
SC3401	QCNCW8056TAZZ	J	Connecting Wire 80-pin	AP
SLD3	PSLDM3269TAFW	J	VCR Shield-A	AD
SLD4	PSLDM3270TAFW	J	VCR Shield-B	AD
	PSLDM9087TAZZ	J	Shield (29 X 39 mm)	AC
	PSLDM9092TAZZ	J	Shield (32 X 45 mm)	AB
	PSHEG0015TAZZ	J	Radiator Sheet, x1 (13 X 13 t1.3)	AG
	PSHEG0022TAZZ	J	Radiator Sheet, x2 (15 X 15 t1.0)	AE
	PMLT-0126TAZZ	J	Spacer	AB

OSD HD GENERATOR UNIT (IN VCR PWB UNIT)

INTEGRATED CIRCUIT

IC4601	VHiBA7046F/-1	J	Sync. Sep. HD Generator	AF

CAPACITORS

C4601	VCKYCY1AF105Z	J	1	10V	Ceramic	AC
C4602	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C4603	VCKYCZ1EF223Z	J	0.022	25V	Ceramic	AB
C4604	VCSAPD1CJ105M	J	1	16V	Tantalum	AC
C4605	VCKYCZ1HB222K	J	2200p	50V	Ceramic	AB
C4606	VCCCCZ1HH101J	J	100p	50V	Ceramic	AB

RESISTORS

R4601	VRS-CY1JF330J	J	33	1/16W	Metal Oxide	AA
R4602	VRS-CZ1JF474J	J	470k	1/16W	Metal Oxide	AA
R4603	VRS-CZ1JF103J	J	10k	1/16W	Metal Oxide	AA
R4604	VRS-CZ1JF474J	J	470k	1/16W	Metal Oxide	AA
R4605	VRS-CZ1JF124F	J	120k	1/16W	Metal Oxide	AB
R4606	VRS-CZ1JF103F	J	10k	1/16W	Metal Oxide	AB
R4607	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R4608	VRS-CZ1JF272J	J	2.7k	1/16W	Metal Oxide	AA

RAMP-0015TAN0
HEAD AMP. PWB UNIT

Ref. No.	Part No.	★	Description	Code
INTEGRATED CIRCUITS				
IC301	VHiBH7272KV-1	J	PRE/REC AMP	BC
IC303	VHiXL93L46F-1	J	EEPROM	AG
TRANSISTORS				
Q301	VS2SC4738Y/-1	J	Buffer	AA
Q302	VS2SC4738Y/-1	J	Buffer	AA
Q305	VS2SC4738Y/-1	J	Switch	AA
Q306	VS2SC4738Y/-1	J	Switch	AA
Q307	VS2SC4738Y/-1	J	Switch	AA
Q309	VSDTC114EE/-1	J	Switch	AB
DIODE				
D301	VHDMA2S111/-1	J	Diode MA2S111	AC
COILS				
L302	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L304	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L305	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
L306	VP-NM4R7MR23N	J	Peaking Coil 4.7µH	AD
CAPACITORS				
C301	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C302	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C304	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C306	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C309	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C310	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C311	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C314	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C316	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C317	VCSATE1AJ336M	J	33 10V Tantalum	AG
C318	VCKYCY1CF104Z	J	0.1 16V Ceramic	AA
C319	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C320	VCSATA1AJ106M	J	10 10V Tantalum	AC
C321	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C325	VCKYCY1CF104Z	J	0.1 16V Ceramic	AA
C326	VCKYCY1AF105Z	J	1 10V Ceramic	AC
C327	VCKYCY1AF105Z	J	1 10V Ceramic	AC
C328	VCSATA1AJ106M	J	10 10V Tantalum	AC
C329	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C330	VCKYCY1HB222K	J	2200p 50V Ceramic	AA
C331	VCKYCY1HB222K	J	2200p 50V Ceramic	AA
C332	VCSATA1AJ106M	J	10 10V Tantalum	AC
C334	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C335	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C344	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C345	VCSATA1AJ106M	J	10µF 10V Tantalum	AC
C348	VCKYCY1EB223K	J	0.022 25V Ceramic	AA
C353	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C354	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
C355	VCSATD0JJ227M	J	220 6.3V Tantalum	AH
C357	VCKYCY1HB472K	J	4700p 50V Ceramic	AA
C380	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C381	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C382	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
C383	VCSATE0JJ476M	J	47 6.3V Tantalum	AF
C384	VCSATE0JJ476M	J	47 6.3V Tantalum	AF
RESISTORS				
R301	VRS-CY1JF100J	J	10 1/16W Metal Oxide	AA
R302	VRS-CY1JF331J	J	330 1/16W Metal Oxide	AA
R303	VRS-CY1JF331J	J	330 1/16W Metal Oxide	AA
R308	VRS-CY1JF331J	J	330 1/16W Metal Oxide	AA
R309	VRS-CY1JF331J	J	330 1/16W Metal Oxide	AA
R310	VRS-CY1JF100J	J	10 1/16W Metal Oxide	AA
R311	VRS-CY1JF223J	J	22k 1/16W Metal Oxide	AA
R313	VRS-CY1JF273J	J	27k 1/16W Metal Oxide	AA
R316	VRS-CY1JF222J	J	2.2k 1/16W Metal Oxide	AA
R317	VRS-CY1JF332J	J	3.3k 1/16W Metal Oxide	AA
R318	VRS-CY1JF103J	J	10k 1/16W Metal Oxide	AA
R319	VRS-CY1JF472J	J	4.7k 1/16W Metal Oxide	AA
R323	VRS-CY1JF472J	J	4.7k 1/16W Metal Oxide	AA
R324	VRS-CY1JF102J	J	1k 1/16W Metal Oxide	AA
R325	VRS-CY1JF101J	J	100 1/16W Metal Oxide	AA
R326	VRS-CY1JF223J	J	22k 1/16W Metal Oxide	AA
R327	VRS-CY1JF682J	J	6.8k 1/16W Metal Oxide	AA
R329	VRS-CY1JF102J	J	1k 1/16W Metal Oxide	AA
R331	VRS-CY1JF101J	J	100 1/16W Metal Oxide	AA
R332	VRS-CY1JF102J	J	1k 1/16W Metal Oxide	AA
R333	VRS-CY1JF101J	J	100 1/16W Metal Oxide	AA
R334	VRS-CY1JF222J	J	2.2k 1/16W Metal Oxide	AA
R336	VRS-CY1JF273J	J	27k 1/16W Metal Oxide	AA
R338	VRS-CY1JF223J	J	22k 1/16W Metal Oxide	AA
R361	VRS-CY1JF102J	J	1k 1/16W Metal Oxide	AA
R362	VRS-CY1JF103J	J	10k 1/16W Metal Oxide	AA
R363	VRS-CY1JF392J	J	3.9k 1/16W Metal Oxide	AA
R364	VRS-CY1JF103J	J	10k 1/16W Metal Oxide	AA
R365	VRS-CY1JF392J	J	3.9k 1/16W Metal Oxide	AA
R366	VRS-CY1JF103J	J	10k 1/16W Metal Oxide	AA
R370	VRS-CY1JF562J	J	5.6k 1/16W Metal Oxide	AA
R371	VRS-CY1JF562J	J	5.6k 1/16W Metal Oxide	AA
R372	VRS-CY1JF473J	J	47k 1/16W Metal Oxide	AA
R373	VRS-CY1JF562J	J	5.6k 1/16W Metal Oxide	AA
R374	VRS-CY1JF222J	J	2.2k 1/16W Metal Oxide	AA
R375	VRS-CY1JF102J	J	1k 1/16W Metal Oxide	AA
R376	VRS-CY1JF222J	J	2.2k 1/16W Metal Oxide	AA
R377	VRS-TV1JD2R2J	J	2.2 1/16W Metal Oxide	AA
MISCELLANEOUS PARTS				
P306	QCNCM8056TAZZ	J	Connector 80-pin	AQ
SC301	QSOCN0665TAZZ	J	Socket 6-pin	AD
SC302	QSOCN2066TAZZ	J	Socket 20-pin	AE
SC303	QSOCN0766TAZZ	J	Socket 7-pin	AD
SC304	QSOCN0966TAZZ	J	Socket 9-pin	AF
SC305	QSOCN1865TAZZ	J	Socket 18-pin	AE
SC307	QSOCN0666TAZZ	J	Socket 6-pin	AD
TP302	QLUGP0111TAFW	J	Lug Test Point	AA
TP303	QLUGP0111TAFW	J	Lug Test Point	AA
	QCNW-1447TAZZ	J	Grounding Wire	AH

Ref. No.	Part No.	★	Description	Code

RAMP-0016TAN0
MICROPHONE AMP. PWB UNIT

INTEGRATED CIRCUITS

IC6601	VHiLA7471M/-1	J		AN
IC6602	VHiBA3308FV-1	J		AH

TRANSISTORS

Q6454	VSUMX2/////-1	J	UMX2	AB
Q6601	VS2SC4617B/-1	J	2SC4617B	AA

COIL

L6601	VPABM101J160N	J	Coil 100μH	AC

CAPACITORS

C6412	VCKYTV1CF225Z	J	2.2	16V	Ceramic	AC
C6413	VCKYTV1CF225Z	J	2.2	16V	Ceramic	AC
C6453	VCSAPD1CJ105M	J	1	16V	Tantalum	AC
C6454	VCSAPD0JJ225M	J	2.2	6.3V	Tantalum	AD
C6455	VCSAPD0JJ225M	J	2.2	6.3V	Tantalum	AD
C6458	VCSATA0JJ685M	J	6.8	6.3V	Tantalum	AD
C6603	VCKYCY1CF104Z	J	0.1	16V	Ceramic	AA
C6604	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C6605	VCKYCY1CB333K	J	0.033	16V	Ceramic	AA
C6607	VCKYTQ1HB104K	J	0.1	50V	Ceramic	AB
C6608	VCSATA0JJ106M	J	10	6.3V	Tantalum	AD
C6610	VCKYTQ1HB104K	J	0.1	50V	Ceramic	AB
C6611	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C6612	VCKYCY1EB223K	J	0.022	25V	Ceramic	AA
C6613	VCKYCY1HB123K	J	0.012	50V	Ceramic	AB
C6614	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C6615	VCKYCY1HB153K	J	0.015	50V	Ceramic	AA
C6616	VCKYCY1HB153K	J	0.015	50V	Ceramic	AA
C6617	VCKYCZ1HB471K	J	470p	50V	Ceramic	AB
C6618	VCKYTQ1CB105K	J	1	16V	Ceramic	AC
C6619	VCKYCY1CB333K	J	0.033	16V	Ceramic	AA
C6620	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C6621	VCKYCY1HB123K	J	0.012	50V	Ceramic	AB
C6622	VCKYCY1EB223K	J	0.022	25V	Ceramic	AA
C6623	VCKYCY1CB473K	J	0.047	16V	Ceramic	AA
C6624	VCKYCY1HB153K	J	0.015	50V	Ceramic	AA
C6625	VCKYCY1HB153K	J	0.015	50V	Ceramic	AA
C6626	VCKYCZ1HB471K	J	470p	50V	Ceramic	AB
C6627	VCSAPD1AJ225M	J	2.2	10V	Tantalum	AC
C6628	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C6629	VCKYCY1EB103K	J	0.01	25V	Ceramic	AA
C6630	VCKYCY1EB103K	J	0.01	25V	Ceramic	AA
C6631	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C6632	VCKYCY1EB103K	J	0.01	25V	Ceramic	AA
C6633	VCSATA1AJ106M	J	10	10V	Tantalum	AC
C6658	VCKYCZ1AF104Z	J	0.1	10V	Ceramic	AB
C6696	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C6697	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA

Ref. No.	Part No.	★	Description	Code

RESISTORS

R6406	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R6451	VRS-CZ1JF272J	J	2.7k	1/16W	Metal Oxide	AA
R6452	VRS-CZ1JF272J	J	2.7k	1/16W	Metal Oxide	AA
R6453	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R6454	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R6455	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R6456	VRS-CZ1JF471J	J	470	1/16W	Metal Oxide	AA
R6457	VRS-CZ1JF185J	J	1.8M	1/16W	Metal Oxide	AA
R6458	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R6497	VRS-CZ1JF104J	J	100k	1/16W	Metal Oxide	AA
R6498	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R6603	VRS-CZ1JF332F	J	3.3k	1/16W	Metal Oxide	AA
R6604	VRS-CY1JF113F	J	11k	1/16W	Metal Oxide	AA
R6605	VRS-CZ1JF822J	J	8.2k	1/16W	Metal Oxide	AA
R6606	VRS-CY1JF103F	J	10k	1/16W	Metal Oxide	AA
R6607	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R6608	VRS-CZ1JF393J	J	39k	1/16W	Metal Oxide	AB
R6609	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R6610	VRS-CZ1JF332F	J	3.3k	1/16W	Metal Oxide	AA
R6611	VRS-CZ1JF103F	J	10k	1/16W	Metal Oxide	AB
R6612	VRS-CY1JF113F	J	11k	1/16W	Metal Oxide	AA
R6613	VRS-CZ1JF153J	J	15k	1/16W	Metal Oxide	AA
R6614	VRS-CZ1JF822J	J	8.2k	1/16W	Metal Oxide	AA
R6615	VRS-CZ1JF393J	J	39k	1/16W	Metal Oxide	AB
R6616	VRS-CZ1JF105J	J	1M	1/16W	Metal Oxide	AA
R6617	VRS-CZ1JF154J	J	150k	1/16W	Metal Oxide	AA
R6618	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R6619	VRS-CZ1JF333J	J	33k	1/16W	Metal Oxide	AA
R6620	VRS-CZ1JF102J	J	1k	1/16W	Metal Oxide	AA
R6621	VRS-CZ1JF154J	J	150k	1/16W	Metal Oxide	AA
R6625	VRS-CZ1JF154J	J	150k	1/16W	Metal Oxide	AA
R6626	VRS-CZ1JF472J	J	4.7k	1/16W	Metal Oxide	AA
R6627	VRS-CZ1JF473J	J	47k	1/16W	Metal Oxide	AA
R6650	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R6651	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA
R6652	VRS-CY1JF273J	J	27k	1/16W	Metal Oxide	AA
R6653	VRS-CY1JF273J	J	27k	1/16W	Metal Oxide	AA
R6654	VRS-CY1JF000J	J	0	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

SC6601	QSOCN1587TAZZ	J	Socket 15-pin	AD

Ref. No.	Part No.	★	Description			Code

RCCD-0008TAN2
CCD PWB UNIT

TRANSISTOR

Q1	VS2SK508///-1	J	Buffer			AE

DIODE

D1	VHDDA121///-1	J	Diode DA121			AA

CAPACITORS

C1	VCKYTQ1CF225Z	J	2.2	16V	Ceramic	AB
C2	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C3	VCSATE1VJ335M	J	3.3	35V	Tantalum	AD
C4	VCCCCY1HH221J	J	220p	50V	Ceramic	AA
C5	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C6	VCKYTV1CF105Z	J	1	16V	Ceramic	AB
C7	VCKYTV1EB104K	J	0.1	25V	Ceramic	AB

RESISTORS

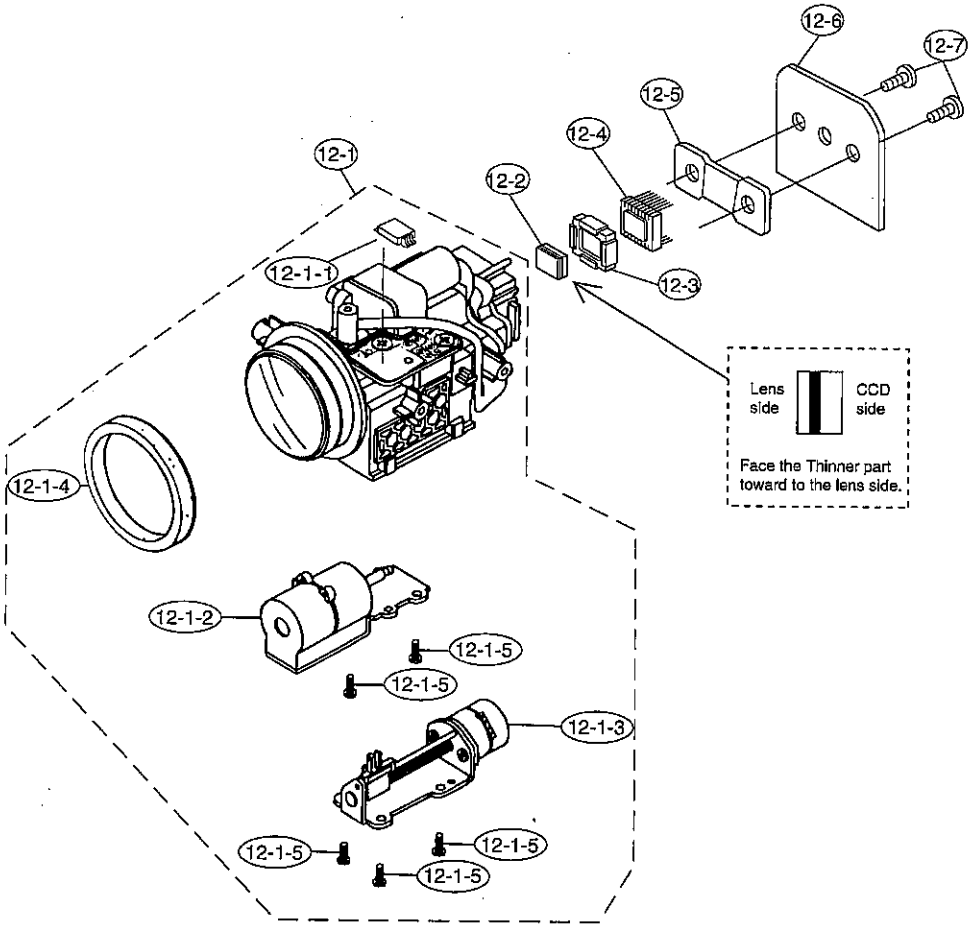
R2	VRS-CY1JF101J	J	100	1/16W	Metal Oxide	AA
R3	VRS-CY1JF392J	J	3.9k	1/16W	Metal Oxide	AA
R5	VRS-CY1JF473J	J	47k	1/16W	Metal Oxide	AA
R6	VRS-CY1JF105J	J	1M	1/16W	Metal Oxide	AA
R7	VRS-CY1JF222J	J	2.2k	1/16W	Metal Oxide	AA
R8	VRS-CY1JF105J	J	1M	1/16W	Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code

LENS UNIT PARTS

12	CLNS-0124HA06	J	Lens Unit Ass'y	CB
12-1	CLNSA0124TA01	J	Lens Unit	BU
12-1-1	VHi24LC4BiN-1	J	IC EEPROM	AL
12-1-2	99JBCA307A015	J	Focus Motor Ass'y	AY
12-1-3	99JBCA307A010	J	Zoom Motor Ass'y	AY
12-1-4	99JBCA109A012	J	Front Group Frame Rubber	AD
12-1-5	99JDH170351FB	J	Screw (B)	AB
12-2	PFiLW0062TAZZ	J	Crystal Filter	AU
12-3	PCOVM8019TA00	J	Dust Proof Rubber	AC
12-4	VHiLZ2463A6-1	J	CCD Sensor	BM
12-5	LANGK0314TAFW	J	CCD Fitting Angle	AC
12-6	*Not Available*	–	CCD PWB Unit	—
12-7	LX-HZ0013TAFF	J	Screw 1.7x6, x2	AA

LENS UNIT EXPLOOD VIEW / EXPLOSIONSDARSTELLUNG DER OBJEKTIVEINHEIT
摄影装置的分解图



CABINET PARTS

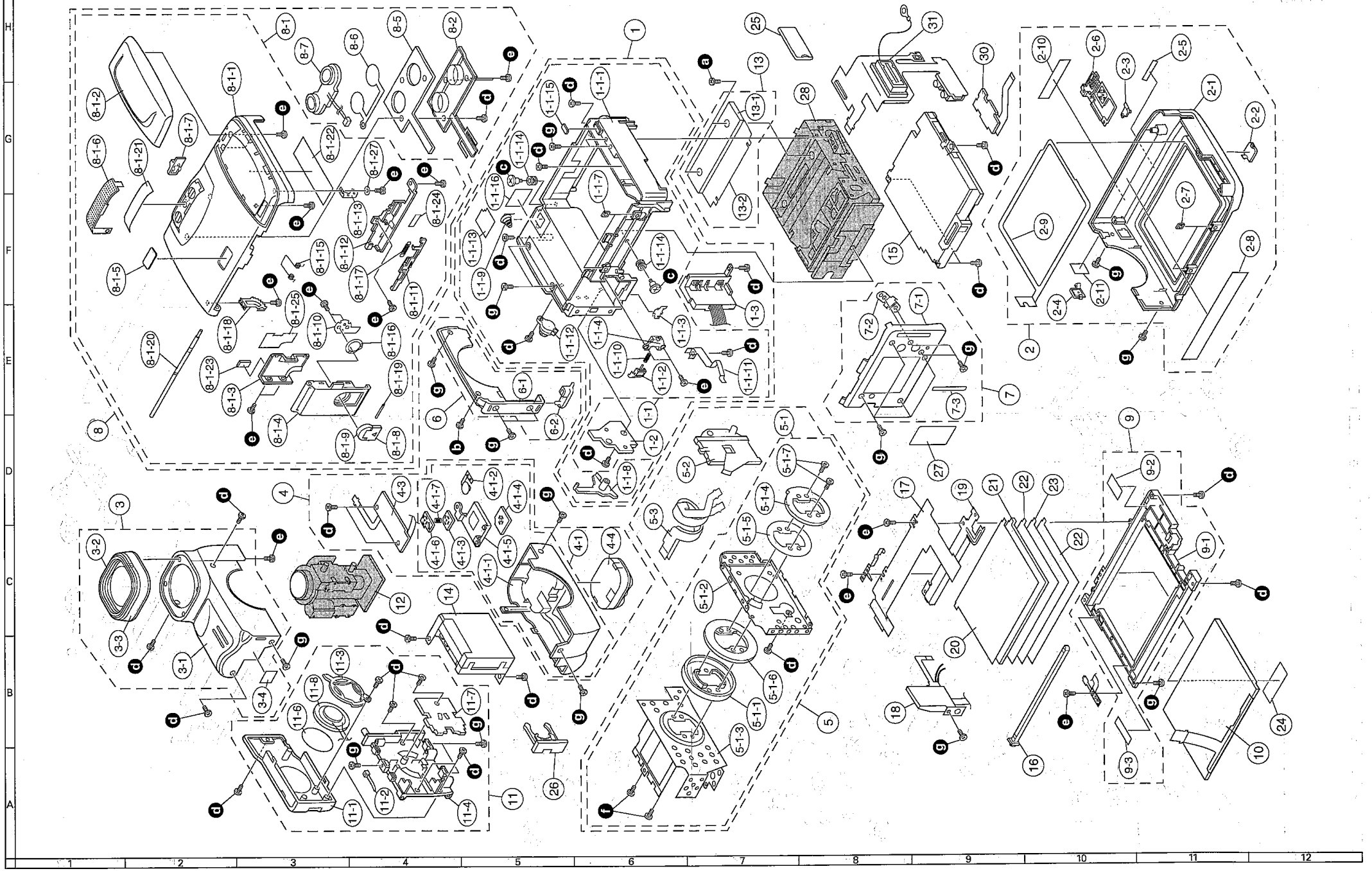
Ref. No.	Part No.	★	Description	Code
1	*Not Available*	–	VCR Frame Ass'y with Switch/Batt. Terminal	—
1-1	DCABA6141TAK5	J	VCR Frame Ass'y	AW
1-1-1	*Not Available*	–	VCR Frame	—
1-1-2	JKNBP0114TASA	J	Batt. Lock Knob	AD
1-1-3	LANGK0323TA00	J	Lid Lock Receive Angle	AD
1-1-4	LHLDZ1337TAZZ	J	Batt. Lock Holder	AD
1-1-5	*Not Used*			
1-1-6	*Not Used*			
1-1-7	LX-NZ0076TAFW	J	Nut	AB
1-1-8	MLEVP0018TAZZ	J	Eject Lever	AD
1-1-9	MSPRC0071TAFJ	J	Batt. Push-out Spring	AC
1-1-10	MSPRC0075TAFJ	J	Batt. Lock Spring	AD
1-1-11	MSPRP0147TAFJ	J	Batt. Intermediate Lock Spring	AC
1-1-12	PDMPF1007TAZZ	J	Damper	AF
1-1-13	PSHEP0037TAZZ	J	Shielding Sheet	AB
1-1-14	PSPAG0077TA00	J	Floating Gum	AA
1-1-15	PSPAG0079TAZZ	J	Cushion	AD
1-1-16	TLABH0251TAZZ	J	Caution Label	AC
1-2	QSW-Z0224TAZZ	J	Reverce/Eject Switch	AP
1-3	QTANZ0108TAZZ	J	Batt. Terminal Unit	AP
2	CCABB6151TAK1	J	LCD Cabinet Ass'y	AY
2-1	*Not Available*	–	LCD Cabinet	—
2-2	GCOVA1383TAZZ	J	R/C Receiver Cover	AB
2-3	GCOVA1384TAZZ	J	LED Cover	AB
2-4	GFTAS1010TASA	J	Lamp Compartment Cover	AD
2-5	HBDGB0044TASA	J	SHARP Badge	AF
2-6	JBTN-0249TASA	J	GUI Button	AC
2-7	LX-NZ0076TAFW	J	Nut	AB
2-8	PSHEM0001TAZZ	J	Aliminium Sheet	AD
2-9	QEARP0193TAZZ	J	LCD Grounding Sheet	AF
2-10	TLABH0217TAZZ	J	Facing Recording Label	AC
2-11	TLABH0247TAZZ	J	Lamp Compartment Label	AB
3	CCABC6068TAK1	J	Camera Front Cabinet Ass'y	BA
3-1	*Not Available*	–	Camera Front Cabinet	—
3-2	GCOVH9123TASA	J	Lens Protection Cover	AR
3-3	GCOVH9124TASA	J	Lens Decoration Cover	AM
3-4	TLABH0246TAZZ	J	Lithium Batt. Compertment Label	AC
4	*Not Available*	–	Camera Rear Cabinet Ass'y with Switch Unit	—
4-1	DCABD6068TAK1	J	Camera Rear Cabinet Ass'y	AX
4-1-1	*Not Available*	–	Camera Rear Cabinet	—
4-1-2	JBTN-0246TASA	J	Camera Control Button	AD
4-1-3	JBTN-0247TASA	J	Power Lock Button	AF
4-1-4	JKNBP0108TASA	J	Power Knob	AC
4-1-5	LHLDZ1311TAZZ	J	Power Knob Holder	AE
4-1-6	LHLDZ1312TAZZ	J	Power Lock Button Holder	AD
4-1-7	MSPRC0070TAFJ	J	Power Lock Button Spring	AB
4-2	*Not Used*			
4-3	QSW-Z0223TAZZ	J	Power Switch Unit	AN
4-4	QSW-Z0229TAZZ	J	Zoom Switch Unit	AP
5	*Not Available*	–	Tilt Angle Unit Ass'y	—
5-1	DANGF0317TA01	J	Tilt Angle Unit	AU
5-1-1	GDAi-1046TASA	J	Rotation Axle	AF
5-1-2	*Not Available*	–	Tilt Frame-V	—
5-1-3	LANGF0318TAFW	J	Tilt Frame-C	AH
5-1-4	LANGH0062TAFW	J	Positioning Plate	AD
5-1-5	PSPAZ0116TAZZ	J	Rotating Spacer	AE
5-1-6	PSPAZ0117TAZZ	J	Tilt Spacer	AF
5-1-7	LX-HZ0017TAFF	J	Screw M2x8	AA
5-2	LHLDW1034TAZZ	J	Tilt FPC Holder	AE
5-3	QPWBH2636TAZZ	J	Tilt FPC	AV
6	CCOVA1381TAK1	J	Tilt Cover Ass'y	AM
6-1	GCOVA1381TAKA	J	Tilt Cover	AK
6-2	GCOVH1175TASA	J	DC Cable Hole Cover	AD
7	CDAi-1053TA01	J	Tripod Base Ass'y	AS
7-1	*Not Available*	–	Tripod Base	—
7-2	LANGF0321TAFW	J	Tripod Screw Cover	AD
7-3	PSPAG0078TA00	J	Rubber Spacer	AB
8	*Not Available*	–	VCR Lid Ass'y with Microphone	—
8-1	DFTAC1228TAK2	J	VCR Lid Ass'y	BC
8-1-1	*Not Available*	–	VCR Lid	—
8-1-2	GCOVA1379TAKA	J	Grip Cover	AK
8-1-3	GCOVA1380TASA	J	Batt. Lid Cover	AC
8-1-4	GFTAB1053TASA	J	Batt. Lid	AF
8-1-5	HBDGS0072TASA	J	DV Badge	AF
8-1-6	HDECB0235TASA	J	Microphone Grille	AN
8-1-7	JKNBP0111TASA	J	Open Knob	AB
8-1-8	JKNBP0112TASA	J	Batt. Lid Knob-A	AD
8-1-9	JKNBP0113TASA	J	Batt. Lid Knob-B	AD
8-1-10	LANGK0322TA00	J	Batt. Lid Lock Angle	AE
8-1-11	LHLDZ1330TAZZ	J	Batt. Lid Lock	AB
8-1-12	LHLDZ1331TAZZ	J	Lid Lock Holder	AC
8-1-13	LSTYM0011TAFW	J	Stay	AD
8-1-14	*Not Used*			
8-1-15	MSPRD0042TAFJ	J	VCR Lid Spring	AC
8-1-16	MSPRP0146TAFJ	J	Batt. Lid Lock Spring	AC
8-1-17	MSPRT0032TAFJ	J	Lid Lock Spring	AB
8-1-18	NGERH3002TAFW	J	Damper Gear	AE
8-1-19	NSFTZ0055TAFW	J	Batt. Lid Lock Knob Shaft	AC
8-1-20	NSFTZ0057TAFW	J	VCR Lid Shaft	AD
8-1-21	PFLT-0011TAZZ	J	Felt	AA
8-1-22	PSHEP0040TAZZ	J	Protection Sheet	AC
8-1-23	PSPAG0068TAZZ	J	Batt. Fitting Rubber	AA
8-1-24	PSPAG0079TAZZ	J	Lid Cushion	AD
8-1-25	TLABH0253TAZZ	J	Batt. Label	AC
8-1-26	*Not Used*			
8-1-27	PSPAZ0115TAZZ	J	Spacer	AC
8-2	LHLDZ1333TAZZ	J	Microphone Holder	AC

CABINET PARTS (Continued)

Ref. No.	Part No.	★	Description	Code
8-3	*Not Used*			
8-4	*Not Used*			
8-5	PMLT-0116TAZZ	J	Sound Shield Sheet	AC
8-6	QEARP0192TAZZ	J	Mic. Shield	AC
8-7	RMiCC0067TAZZ	J	Microphone Unit	AU
9	CHLDZ1334TA01	J	LCD Holder Ass'y	AH
9-1	*Not Available*	–	LCD Holder	—
9-2	PSHEP0038TAZZ	J	Light Shield Plate	AB
9-3	PTPEH0001TAZZ	J	LCD Fitting Tape	AB
10	CPNLC0019RM01	J	LCD Panel Ass'y	CE
10-1	*Not Available*	–	LCD Panel	—
10-2	*Not Available*	–	Cover AR Coat	—
11	CCOVA1378TAK1	J	Side Cover Ass'y	AX
11-1	*Not Available*	–	Side Cover	—
11-2	LHLDW1070GEZZ	J	Wire Holder	AA
11-3	LHLDZ1313TAZZ	J	Speaker Holder	AE
11-4	LHLDZ1329TAZZ	J	Lens Holder	AD
11-5	*Not Used*			
11-6	PCOVP9049TAZZ	J	Speaker Mesh	AC
11-7	RUNTK0311TAZZ	J	Lithium Batt. Terminal	AM
11-8	VSP0028P-368N	J	Speaker	AM
13	CFTAC1226TA01	J	Cassette Control Lid Ass'y	AG
13-1	*Not Available*	–	Cassette Control Lid	—
13-2	PCOVP9051TA00	J	Cassette Control Cover	AC
14	*Not Available*	–	Camera PWB Unit	—
15	*Not Available*	–	VCR PWB Unit	—
16	KLMPV0018TAZZ	J	Fluorescent Lamp Unit	AZ
17	PZETV0341TAZZ	J	Lamp Shield Plate	AF
18	RiNV-0017TAZZ	J	Inverter Unit	AY
19	MSPRP0148TAFJ	J	Light Guide Set Spring	AD
20	PMiR-0017TAZZ	J	Reflection Sheet	AE
21	PGiDM0022TAZZ	J	Light Guide Plate	AK
22	PSHEP0024TAZZ	J	Diffusion Sheet	AF
23	PSHEP0022TAZZ	J	Prism Sheet	AM
24	PZETV0324TAZZ	J	LCD Fitting Sheet	AB
25	GCOVH1184TAZZ	J	Terminal Cover	AD
26	LHLDB1018TASA	J	Lithium Batt. Holder	AD
27	TLABM1658TAZZ	J	Model Label (VL-DC1E)	AC
27	TLABM1657TAZZ	J	Model Label (VL-DC1H)	AC
27	TLABM1656TAZZ	J	Model Label (VL-DC1S)	AC
28	*Not Available*	–	Mechanism Chassis Ass'y	—
29	*Not Used*			
30	QSW-Z0219TAZZ	J	Switch	AP
31	QTANZ0109TAZZ	J	Terminal 60-pin	BD

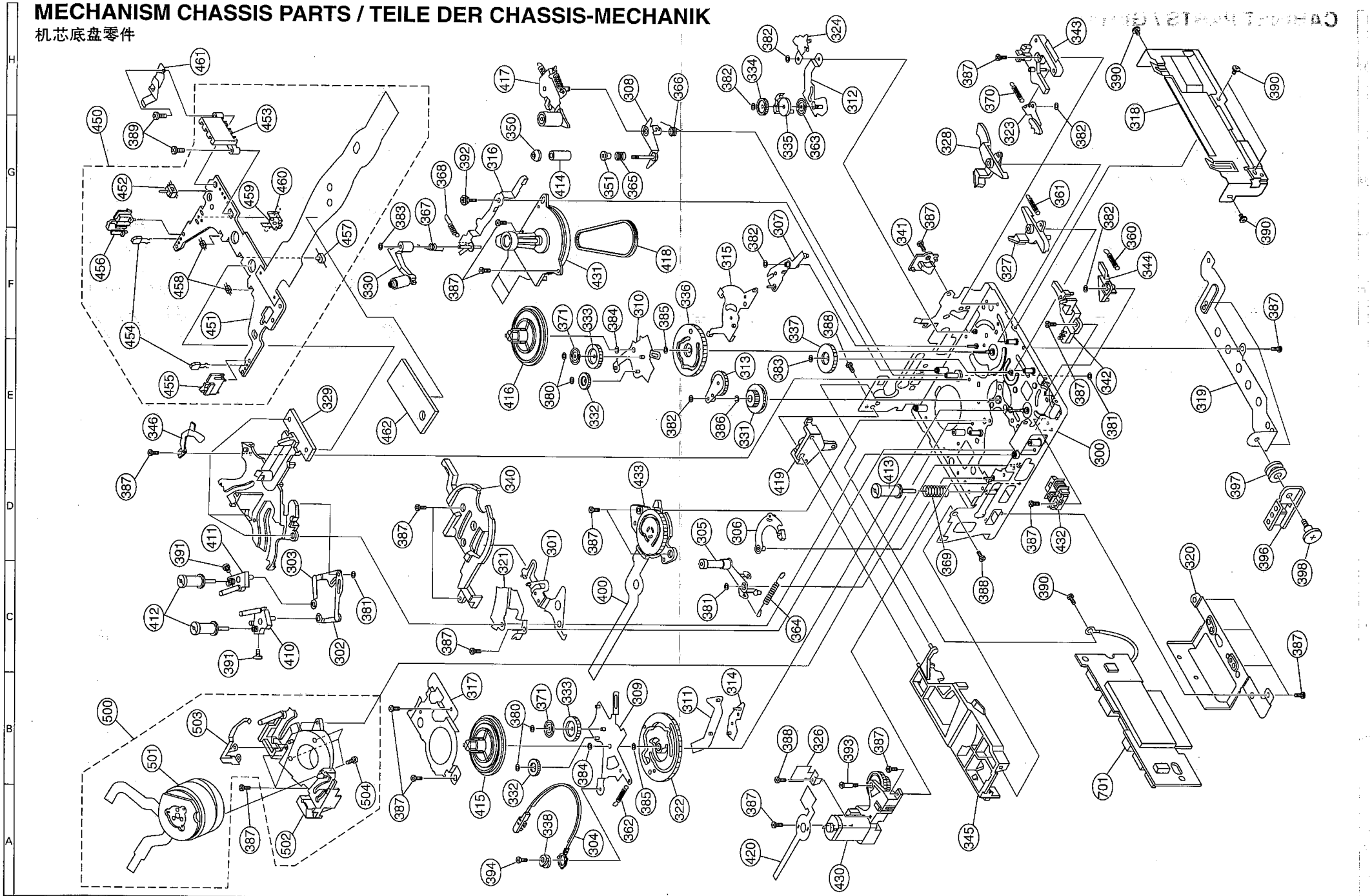
Ref. No.	Part No.	★	Description	Code
a	LX-BZ0175TAFF	J	Screw M1.7, x2	AA
b	LX-BZ0190TAFF	J	Screw M2 Special, x1	AC
c	LX-BZ0192TAFF	J	Screw M1.7 Floating, x2	AB
d	LX-HZ0018TAFF	J	Screw M2x6 Tapping, x28	AA
e	LX-HZ0031TAFF	J	Screw M2x4 Tapping, x23	AA
f	XBPSD26P08J00	J	Screw M2.6x8 with Washer, x2	AA
g	XiPSF20P03000	J	Screw M2x3, x23	AA

CABINET PARTS / GEHÄUSETEILE 売体零件



MECHANISM CHASSIS PARTS / TEILE DER CHASSIS-MECHANIK

机芯底盘零件



MECHANISM CHASSIS PARTS

Ref. No.	Part No.	★	Description	Code
300	LCHSM0156GEZZ	J	Main Chassis Ass'y	AV
301	MLEVF0437GEZZ	J	Loading Lever Ass'y	AG
302	MARMM0113GEZZ	J	S Loading Arm Ass'y	AF
303	MARMM0115GEZZ	J	Tu Loading Arm Ass'y	AF
304	LBNDK3020GEZZ	J	Tention Band Ass'y	AG
305	MLEVF0484GEZZ	J	Tention Arm Ass'y	AP
306	MLEVF0440GEZZ	J	Tention Control Lever Ass'y	AG
307	MLEVF0442GEZZ	J	Pinch Drive Lever Ass'y	AH
308	MLEVF0443GEZZ	J	Tu Guide Arm Ass'y	AG
309	MLEVF0444GEZZ	J	S Gear Lever Ass'y	AH
310	MLEVF0445GEZZ	J	Tu Gear Lever Ass'y	AG
311	MARMM0117GEFW	J	Gear Lever Drive Arm	AE
312	MLEVF0446GEZZ	J	VSR Brake Lever Ass'y	AF
313	NGERH1247GEZZ	J	Swing Arm Ass'y	AL
314	MLEVF0447GEZZ	J	Brake Drive Lever	AF
315	MLEVF0449GEZZ	J	Eject Lever	AE
316	MLEVF0450GEZZ	J	AHC Mounting Angle Ass'y	AG
317	LANGA0067GEFW	J	Reel Cover	AD
318	LANGG9098GEFW	J	Down Guide	AF
319	LANGJ0030GEFW	J	Mech. Fixing Angle-F	AE
320	LANGJ0031GEZZ	J	Mech. Fixing Angle-R	AE
321	LANGF9593GEFW	J	Loading Lever Cover Ass'y	AE
322	NGERH3044GEZZ	J	Main Cam	AF
323	MLEVF0482GEZZ	J	Tu Lock Lever	AF
324	MLEVF0483GEZZ	J	Tu Lock Release Lever	AD
326	LANGF9597GEFW	J	Dew Sensor Fitting Angle	AD
327	MLEVP0259GEZZ	J	S Main Brake Ass'y	AC
328	MLEVP0260GEZZ	J	Tu Main Brake Ass'y	AE
329	PGiDM0134GEZZ	J	Guide Rail Ass'y	AK
330	MLEVP0261GEZZ	J	AHC Lever Ass'y	AG
331	NGERH1248GEZZ	J	Center Gear Ass'y	AE
332	NGERH1249GEZZ	J	Play Gear, x2	AE
333	NGERH1250GEZZ	J	Fast Gear, x2	AE
334	NGERH1251GEZZ	J	VSR Gear	AD
335	MLEVP0262GEZZ	J	VSR Lock Lever	AD
336	NGERH1255GEZZ	J	Pinch Cam	AD
337	NGERH1252GEZZ	J	Cam Relaying Gear	AD
338	NSFTP0033GEZZ	J	Eccentric Pin	AD
339	*Not Used*			
340	LDAiS1008GEZZ	J	L Lever Catcher	AD
341	PGiDM0151GEZZ	J	Lock Cam	AC
342	LHLDF1094GEZZ	J	PWB Holder-S	AD
343	LHLDF1095GEZZ	J	PWB Holder-Tu Ass'y	AF
344	MLEVP0263GEZZ	J	Blake Latch Lever	AD
345	PCOVP1022GEZZ	J	Drum Cover	AD
346	LANGA0072GEFW	J	Tu Reel Stopper	AC
350	PGiDS0046GEFW	J	Tu Guide Upper Flange	AE
351	PGiDS0047GEFW	J	Tu Guide Bottom Flange	AE
360	MSPRT0389GEFJ	J	Brake Latch Lever Spring	AD
361	MSPRT0390GEFJ	J	Main Brake Spring	AC
362	MSPRT0391GEFJ	J	Gear Lever Spring	AC
363	MSPRP0168GEFJ	J	VSR Gear Spring	AE
364	MSPRT0392GEFJ	J	T Arm Spring	AD
365	MSPRC0197GEFJ	J	Tu Guide Spring	AB
366	MSPRD0159GEFJ	J	Tu Guide Return Spring	AC
367	MSPRD0160GEFJ	J	AHC Pressure Spring	AC
368	MSPRT0394GEFJ	J	AHC Release Spring	AD
369	MSPRC0198GEFJ	J	SI Roller Spring	AB
370	MSPRT0412GEFJ	J	Tu Lock Spring	AD
371	MSPRP0177GEFJ	J	Fast Gear Spring, x2	AD
380	LX-WZ1071GE02	J	CW 0.7-1.8 t 0.1, x4	AC
381	LX-WZ1052GE00	J	CW 0.7-1.8 t 0.2, x3	AA
382	LX-WZ1053GE00	J	CW 0.7-2.5 t 0.2, x6	AA
383	LX-WZ1029GE00	J	CW 1.2-3.0 t 0.25, x2	AA
384	LX-WZ1089GE00	J	CW 1.6-3.0 t 0.25, x2	AC
385	LX-WZ1090GE00	J	CW 2.0-3.5 t 0.25, x2	AC
386	XWHJZ10-02025	J	Washer 1.0-2.5 t 0.25	AB
387	LX-HZ3076GEFF	J	Screw M1.4xL3.0, x29	AA
388	LX-JZ3002GEZZ	J	Screw M1.4xL3.0, x3	AA
389	LX-JZ3003GEFN	J	Screw M1.4xL6.0, x2	AC
390	LX-BZ3131GEFN	J	Screw M1.4xL1.6, x4	AA
391	LX-BZ3181GEFN	J	Sp. Screw M1.2xL1.8, x2	AD
392	LX-BZ3168GEFF	J	Sp. Screw M1.4xL2.0, x1	AD
393	LX-BZ3170GEFF	J	Sp. Screw M1.4xL6.25, x1	AD
394	LX-BZ3167GEFN	J	Screw M1.4xL3.0, x1	AC
396	LANGK0325TAFW	J	Mech. Fitting Angle	AE
397	PSPAG0077TA00	J	Floating Rubber	AC
398	LX-BZ0192TAFF	J	Floating Screw, x1	AB
400	QPWBH5206GEZZ	J	Mode Switch-FPC	AG
410	LPOLM0054GEZZ	J	S Pole Base Ass'y	AL
411	LPOLM0055GEZZ	J	Tu Pole Base Ass'y	AL
412	NROLM0038GEZZ	J	Guide Roller Ass'y, x2	AW
413	NROLP0118GEZZ	J	SI Roller Ass'y	AP
414	PGiDP0028GEFW	J	Tu Roller	AE
415	NDAiV1068GEZZ	J	S Reel Base Ass'y	AU
416	NDAiV1069GEZZ	J	Tu Reel Base Ass'y	AU
417	MLEVF0453GEZZ	J	Pinch Arm Ass'y	AT
418	NBLTT0011GEZZ	J	Timing Belt	AF
419	PDMP-0011GEZZ	J	Damper	AG
420	RDTCH0036GEZZ	J	Dew Sensor	AL
430	RMOTM1068GEZZ	J	Loading Motor Ass'y	AS
431	RMOTV1017GEZZ	J	Capstan Motor	BE
432	RPLU-0087GEZZ	J	Brake Solenoid	AL
433	QSW-R0037GEZZ	J	Mode Switch	AG
450	CPWBN5346GE01	J	Sensor PWB Unit Ass'y	AZ
451	*Not Available*	–	Sensor PWB Unit	—
452	QSW-M0039GEZZ	J	Recognition Switch	AF
453	QTANZ0001GEZZ	J	Mic Contact	AE
454	RH-PX0180TAZZ	J	Cassette LED	AE
455	LHLDP1154GEZZ	J	LED Holder-S	AD
456	LHLDP1155GEZZ	J	LED Holder-Tu	AD
457	RH-PX0181TAZZ	J	S/E Sensor	AF
458	RDTCM0002TAZZ	J	Reel Sensor	AE
459	QSW-M0040GEZZ	J	Down Switch	AE
460	PCOVP3012GEFW	J	Down Switch Cover	AD
461	MSPRP0180GEFW	J	Cassette Control Spring	AD
462	PSLDM9091TAZZ	J	Shield Sheet	AD
500	*Not Available*	–	Drum Ass'y, with Drum Base	—
501	DDRMW0021HE02	J	Upper/Lower Drum Ass'y	BZ

Ref. No.	Part No.	★	Description	Code

MECHANISM CHASSIS PARTS (Continued)

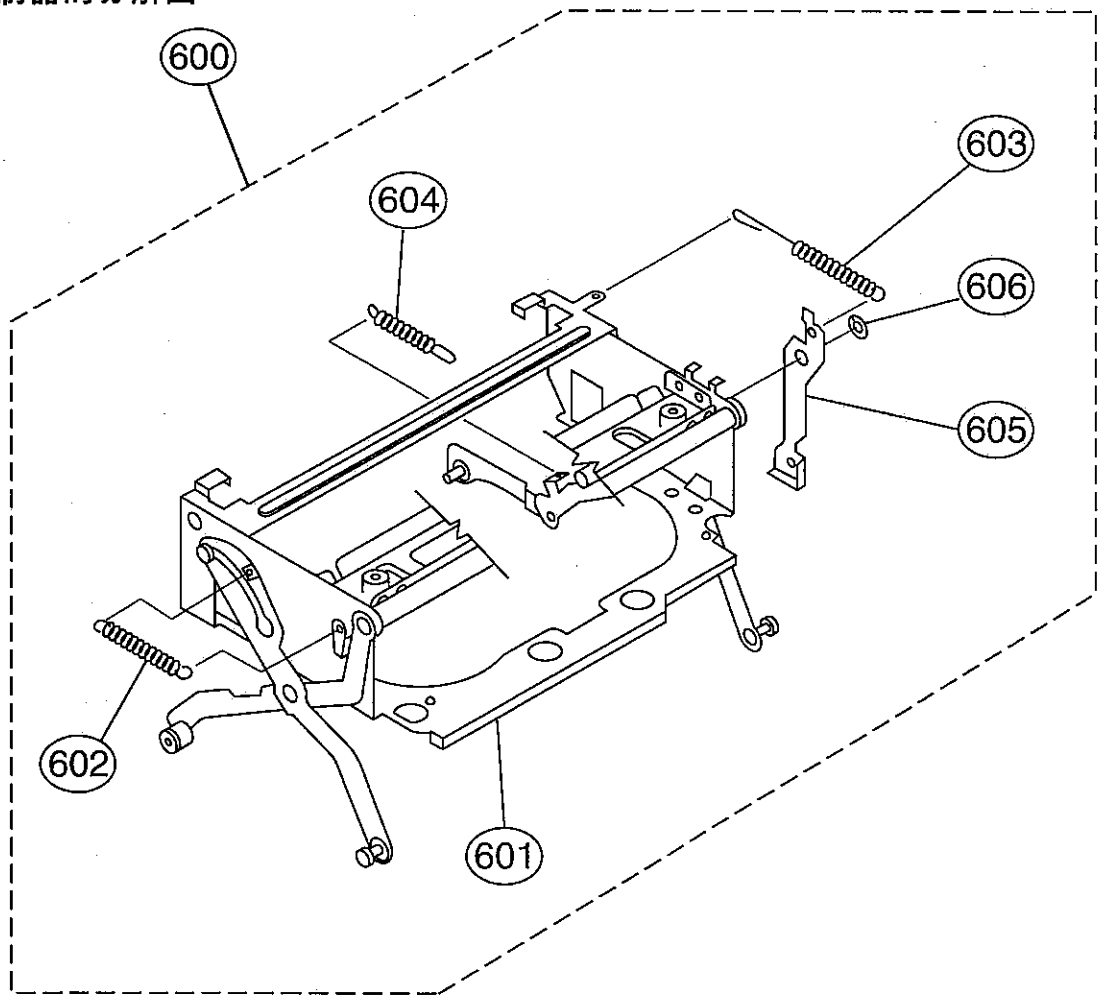
502	PGiDM0135GEZZ	J	Drum Base Ass'y	AL
503	MSPRP0169GEFJ	J	PBT-Spring	AD
504	LX-BZ3169GEZZ	J	Screw M1.4xL2.5, x3	AA
701	*Not Available*	–	Head Amp. Unit	—

Ref. No.	Part No.	★	Description	Code

CASSETTE CONTROL PARTS

600	CHLDX3076GE01	J	Cassette Control Ass'y	AX
601	*Not Available*	–	Housing Ass'y	—
602	MSPRT0396GEFJ	J	Up Spring	AE
603	MSPRT0406GEFJ	J	Lock Spring	AD
604	MSPRT0397GEFJ	J	Cassette Control Auxiliary Spring	AE
605	MLEVF0452GEFW	J	Lock Lever	AE
606	LX-WZ1030GE00	J	CW 1.6-4.0 t 0.25, x1	AA

CASSETTE CONTROL EXPLOOD VIEW / EXPLOSIONSDARSTELLUNG DER KASSETTENSTEUERUNG
盒室控制器的分解图



Ref. No.	Part No.	★	Description	Code

SUPPLIED ACCESSORIES
MODEL VL-DC1E

ACCESSORIES

UBATi0016TAZZ	J	Battery Pack	BR
GDAi-1048TAZZ	J	Tripod Adaptor	AT
RTPEV0015TAZZ	J	Mini DV Video Cassette	BB
QCNW-1170TAZZ	J	S-Video Cable	AP
QCNW-1335TAZZ	J	Audio/Video Cable	AM
QCNW-1378TAZZ	J	DC Output Cable	AT
QPLGA0010GEZZ	J	AC Plug Adaptor	AF
QJAKZ0041TAZZ	J	A/V Pack	AX
RRMCG0045TASA	J	Infrared R/C Unit	AY
UADP-0216TAZZ	J	AC Adaptor/Battery Charger (For Australia and New Zealand)	BT
UADP-0219TAZZ	J	AC Adaptor/Battery Charger (For Hong Kong)	BT
UADP-0233TAZZ	J	AC Adaptor/Battery Charger (For Asia and Middle East)	BT
UADP-0235TAZZ	J	AC Adaptor/Battery Charger (For Russia)	BT
UBATL0004TAZZ	J	Lithium Battery x2	AF
UBNDS0012TAZZ	J	Shoulder Strap	AV
UBNDT0088TAZZ	J	Hand Strap	AM
TINSL0052TAZZ	J	Operation Manual	AX

ACCESSORIES (NOT REPLACEMENT ITEM)

TCTLZ0008TAZZ	–	Option Guide	—

SUPPLIED ACCESSORIES
MODEL VL-DC1S

ACCESSORIES

UBATi0016TAZZ	J	Battery Pack	BR
GDAi-1048TAZZ	J	Tripod Adaptor	AT
RTPEV0015TAZZ	J	Mini DV Video Cassette	BB
GCOVH1172TAZZ	J	Sun Food	AV
QCNW-1170TAZZ	J	S-Video Cable	AP
QCNW-1335TAZZ	J	Audio/Video Cable	AM
QCNW-1378TAZZ	J	DC Output Cable	AT
QJAKZ0041TAZZ	J	A/V Pack	AX
RRMCG0048TASA	J	Infrared R/C Unit	AV
UADP-0214TAZZ	J	AC Adaptor/Battery Charger	BT
UBATL0004TAZZ	J	Lithium Battery x2	AF
UBNDS0012TAZZ	J	Shoulder Strap	AV
UBNDT0088TAZZ	J	Hand Strap	AM
TINSL0051TAZZ	J	Operation Manual-1	AX
TINSL0058TAZZ	J	Operation Manual-2	AX

ACCESSORIES (NOT REPLACEMENT ITEM)

TCTLZ0008TAZZ	–	Option Guide	—
TCADN0071TAZZ	–	Regist Card	—
TGANL0004TAZZ	–	Guarantee Card	—

SUPPLIED ACCESSORIES
MODEL VL-DC1H

ACCESSORIES

UBATi0016TAZZ	J	Battery Pack	BR
GDAi-1048TAZZ	J	Tripod Adaptor	AT
RTPEV0015TAZZ	J	Mini DV Video Cassette	BB
GCOVH1172TAZZ	J	Sun Food	AV
QCNW-1170TAZZ	J	S-Video Cable	AP
QCNW-1335TAZZ	J	Audio/Video Cable	AM
QCNW-1378TAZZ	J	DC Output Cable	AT
QJAKZ0041TAZZ	J	A/V Pack	AX
RRMCG0048TASA	J	Infrared R/C Unit	AV
UADP-0215TAZZ	J	AC Adaptor/Battery Charger	BU
UBATL0004TAZZ	J	Lithium Battery x2	AF
UBNDS0012TAZZ	J	Shoulder Strap	AV
UBNDT0088TAZZ	J	Hand Strap	AM
TINSE0154TAZZ	J	Service Guide	AA
TINSE0208TAZZ	J	Operation Manual	AQ
TINSE0209TAZZ	J	Quick Guide	AE

ACCESSORIES (NOT REPLACEMENT ITEM)

TCTLZ0008TAZZ	–	Option Guide	—
TCADN0071TAZZ	–	Regist Card	—
TGANL0004TAZZ	–	Guarantee Card	—

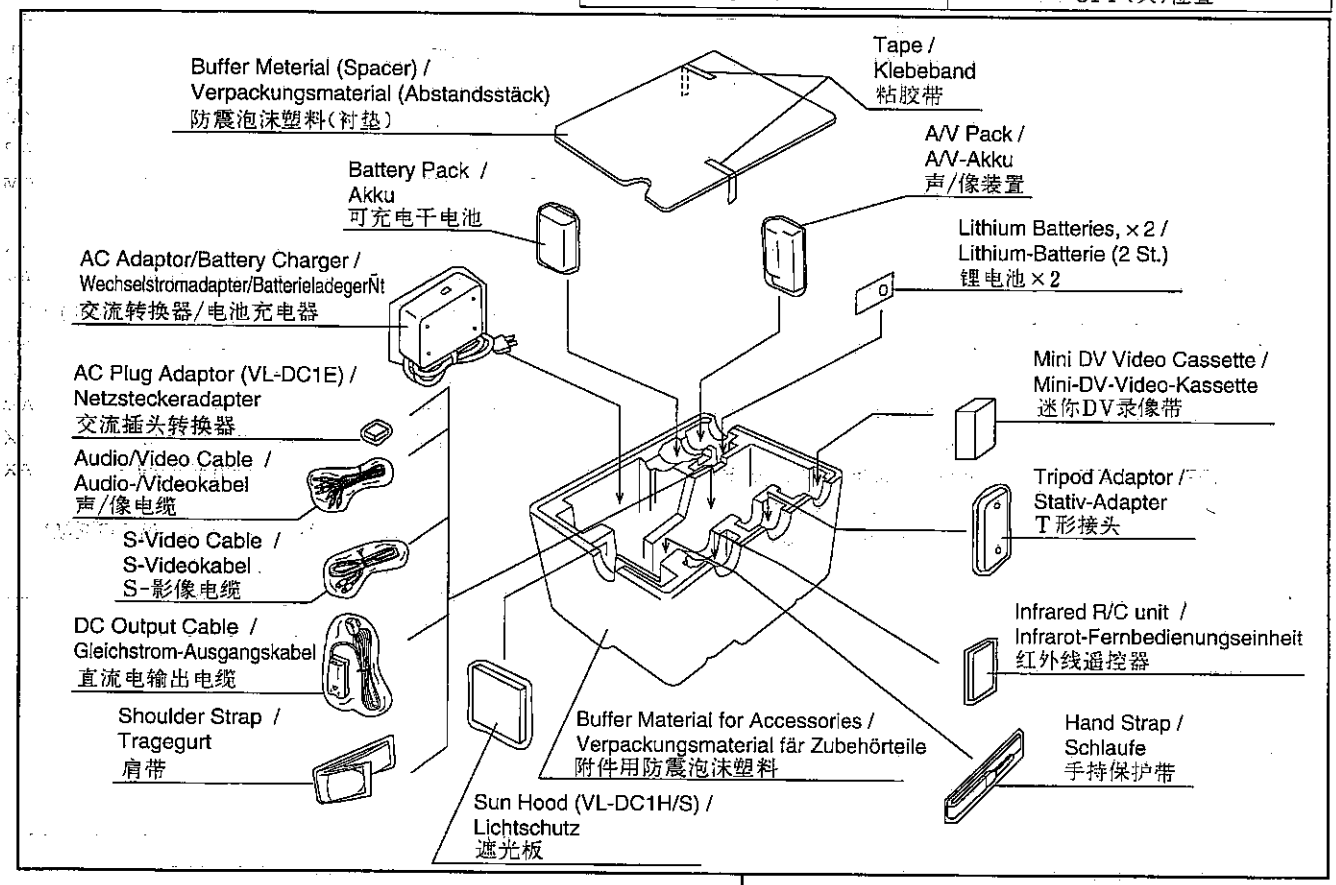
PACKING PARTS
(NOT REPLACEMENT ITEM)

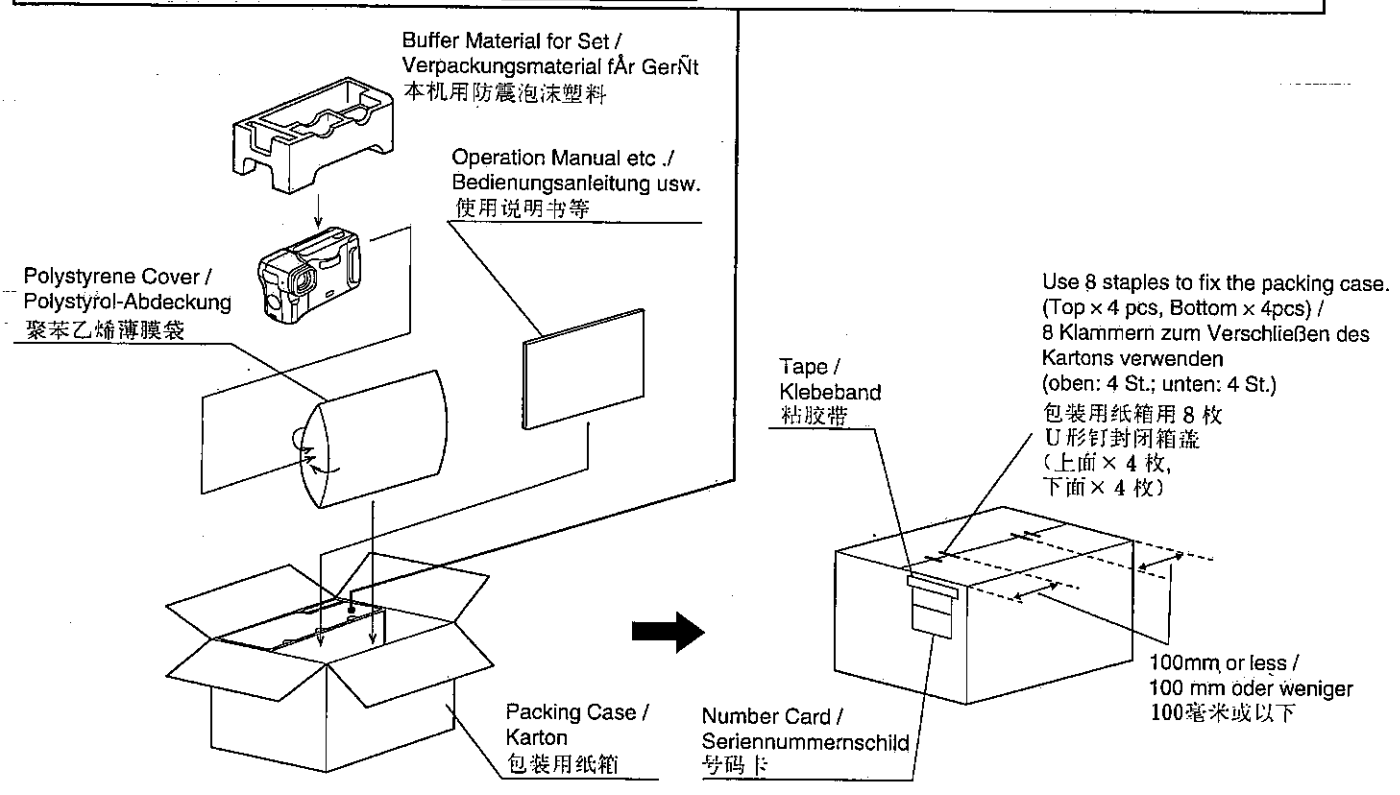
SPAKC6612TAZZ	–	Packing Case (VL-DC1E)	—
SPAKC6611TAZZ	–	Packing Case (VL-DC1H)	—
SPAKC6610TAZZ	–	Packing Case (VL-DC1S)	—
SPAKP6068TAZZ	–	Polystyrene Cover (Set)	—
SPAKA6164TAZZ	–	Buffer Material (Set)	—
SPAKA6167TAZZ	–	Buffer Material (Accessories)	—
SPAKF0197TAZZ	–	Buffer Material (Spacer)	—

23. PACKING OF THE SET/ LIEFERUMFANG 包装方法

• Switch setting positions/Schalter-Einstellpositionen 各旋钮设定位置

Name/Bezeichnung 名 称	Setting position/Einstellposition 设定位置
Power switch/Hauptschalter 电源开关	OFF/AUS (OFF) OFF(关)位置


Buffer Meterial (Spacer) / Verpackungsmaterial (Abstandsstäck) 防震泡沫塑料(衬垫)
Tape / Klebeband 粘胶带
A/V Pack / A/V-Akku 声/像装置
Battery Pack / Akku 可充电干电池
Lithium Batteries, ×2 / Lithium-Batterie (2 St.) 锂电池×2
AC Adaptor/Battery Charger / Wechselstromadapter/BatterieladegerÑt 交流转换器/电池充电器
Mini DV Video Cassette / Mini-DV-Video-Kassette 迷你DV录像带
AC Plug Adaptor (VL-DC1E) / Netzsteckeradapter 交流插头转换器
Audio/Video Cable / Audio-/Videokabel 声/像电缆
Tripod Adaptor / Stativ-Adapter T形接头
S-Video Cable / S-Videokabel S-影像电缆
Infrared R/C unit / Infrarot-Fernbedienungseinheit 红外线遥控器
DC Output Cable / Gleichstrom-Ausgangskabel 直流电输出电缆
Shoulder Strap / Tragegurt 肩带
Buffer Material for Accessories / Verpackungsmaterial fär Zubehörteile 附件用防震泡沫塑料
Hand Strap / Schlaufe 手持保护带
Sun Hood (VL-DC1H/S) / Lichtschutz 遮光板


Buffer Material for Set / Verpackungsmaterial fÅr GerÑt 本机用防震泡沫塑料
Operation Manual etc ./ Bedienungsanleitung usw. 使用说明书等
Polystyrene Cover / Polystyrol-Abdeckung 聚苯乙烯薄膜袋
Use 8 staples to fix the packing case. (Top × 4 pcs, Bottom × 4pcs) / 8 Klammern zum Verschließen des Kartons verwenden (oben: 4 St.; unten: 4 St.) 包装用纸箱用 8 枚 U形钉封闭箱盖 (上面× 4 枚, 下面× 4 枚)
Tape / Klebeband 粘胶带
100mm or less / 100 mm oder weniger 100毫米或以下
Packing Case / Karton 包装用纸箱
Number Card / Seriennummernschild 号码卡

Memo

SHARP

TQ0166-S
Printed in Japan
In Japan gedruckt
在日本印刷
W/S MW. KG